



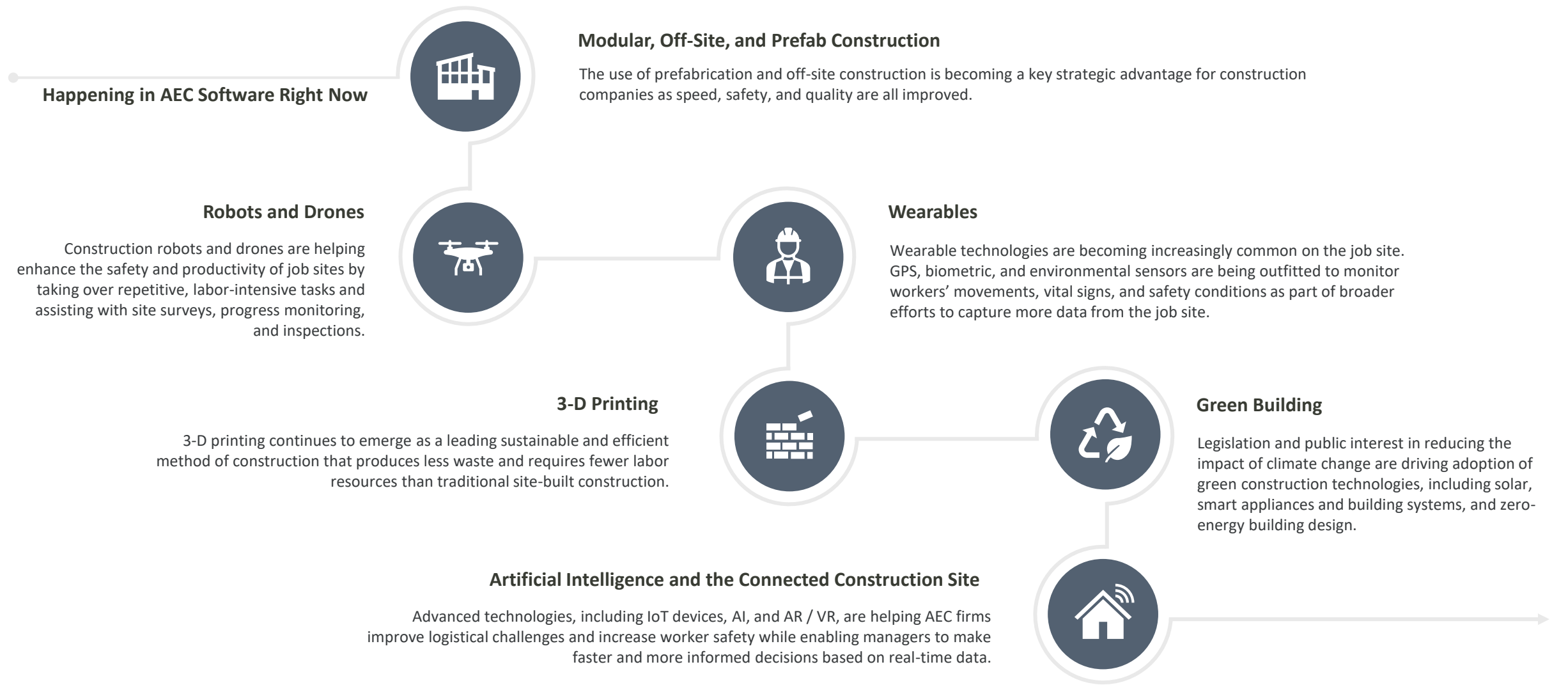
# Architecture, Engineering, and Construction Software Sector Update

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Harris Williams | Q4 2022

# Key Trends in the AEC Software Market

The construction industry continues to embrace new technology and digital transformation efforts to improve safety, efficiency, and profitability.



# Perspectives on AEC Software Landscape



# What We're Reading

## Construction Spending Dips, But Contractors Remain Optimistic

**Construction Dive – October 4, 2022**

Headline declines in annual residential and nonresidential spending have painted a fearful picture of the short-term outlook in construction across the U.S. However, these discouraging macroeconomic trends are at odds with high contractor confidence across the industry, as many see the significant recent momentum in spend on water projects and commercial construction as demonstrating hope for continued expansion.

Read the full article [here](#).

## Lumber Prices Fall Back to Around Their Pre-Covid Levels

**Wall Street Journal – September 27, 2022**

Following a rush to stockpile inventory during the height of COVID-19 that caused lumber prices to skyrocket, homebuilders have experienced an inverse movement in the price of materials against the Federal Reserve's recent interest rate hikes. With prices for lumber falling below pre-pandemic levels, industry leaders are implementing strategies to choke off production in order to maintain break-even profit.

Read the full article [here](#).

## Tomorrow's Equipment Operators

**Engineering News Record – August 10, 2022**

The construction industry faces a two-fold headwind with its labor force: fewer skilled workers and higher labor costs. In response, AEC firms are turning to virtual reality platforms for employee training and certification, allowing new hires to quickly and comprehensively be brought up to speed and put on the jobsite. Coupled with continued advancements in automated equipment, industry leaders see resiliency into the future.

Read the full article [here](#).

## Procore to Expand Into Fintech Services, CEO Says

**Construction Dive – August 10, 2022**

The material procurement process has been a perpetual thorn in the side of the construction industry at large. Platforms like Procore, with its 2021 acquisition of payment and lien process management firm Levelset, are addressing this gap in effective construction payments offerings through M&A in order to augment its current workforce and invoice management offerings and drive holistic value creation for its users.

Read the full article [here](#).

## Recent Harris Williams Publications

- Sector Update: Real Estate & Property Tech | Q3 2022



[Link to Read](#)

- Sector Update: Engineering & Construction | Q4 2022



[Link to Read](#)

# Select Recent AEC Software Transactions

## Schneider Electric's pending acquisition of Aveva Group



Announced: September 21, 2022

- Provider of engineering design, information management, and software solutions to industrial, utility, data center, and energy customers
- By acquiring complete ownership of Aveva, Schneider will be able to grow the business faster by simplifying decision-making, enabling seamless interactions between teams, accelerating investments in R&D, and enabling a more coordinated sales strategy across the companies

## Trimble's acquisition of B2W Software



Closed: September 14, 2022

- Developer of a unified heavy construction software platform for the construction industry
- The acquisition of B2W expands Trimble's already extensive portfolio of civil and infrastructure solutions through the addition of a dedicated project management platform designed specifically for heavy civil construction contractors

## OpenGov's acquisition of Cartegraph



Closed: September 1, 2022

- Developer of infrastructure management and public agency operations solutions software intended for government agencies, utilities, and educational institutions
- This acquisition enhances OpenGov's portfolio of solutions for state and local government through the addition of asset management tools for public works, utilities, parks, and other government-owned facilities

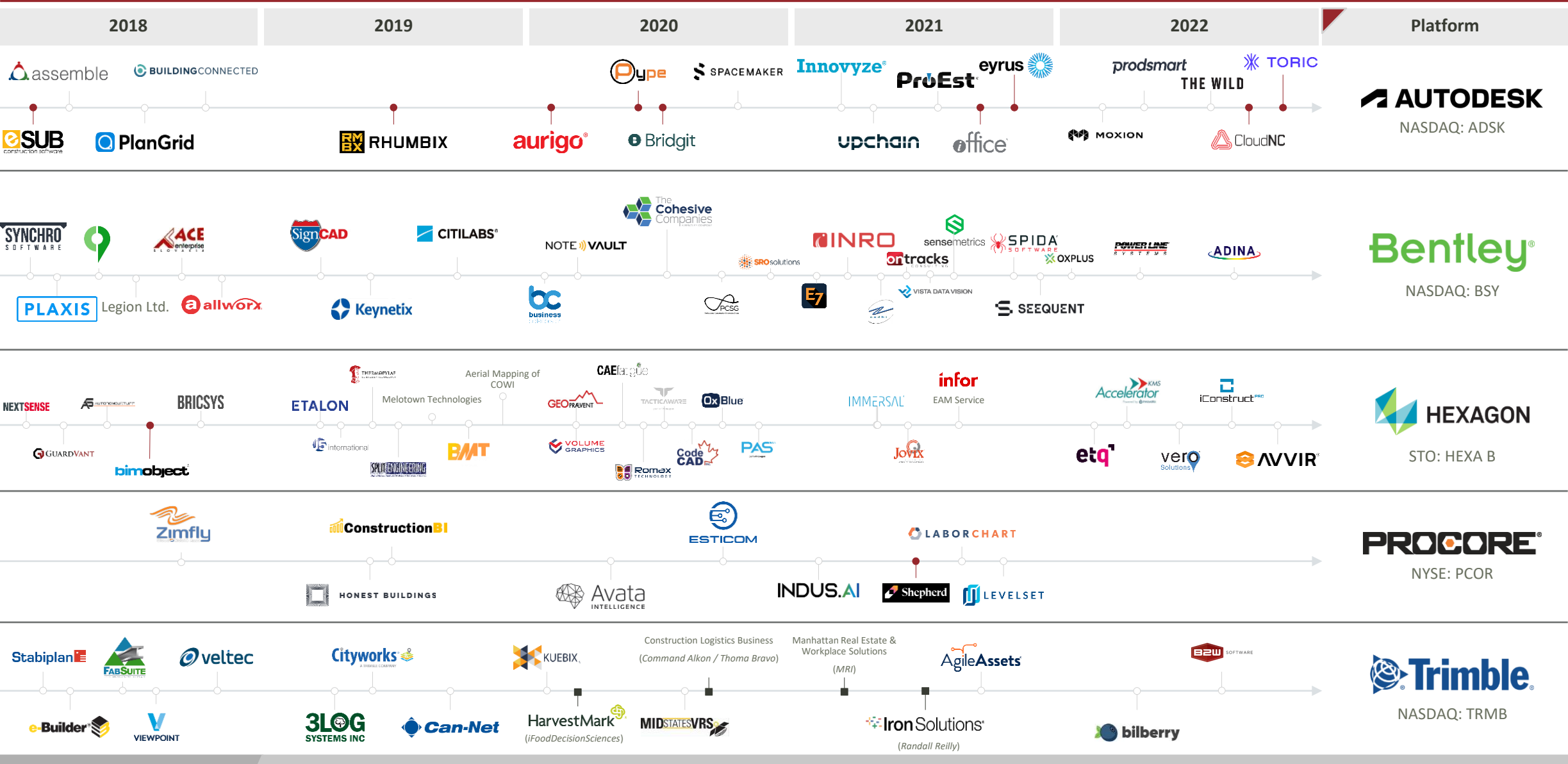
## Compusoft's acquisition of Resource and Financial Management Systems



Closed: July 12, 2022

- Provider of a full suite of ERP and business management solutions for flooring businesses
- This investment expands Compusoft + 2020's coverage of the "Spaces for the Living" ecosystem, establishing a leading presence in the North American flooring market. The combined company will be ideally positioned to be the reference end-to-end platform dedicated to the global flooring industry

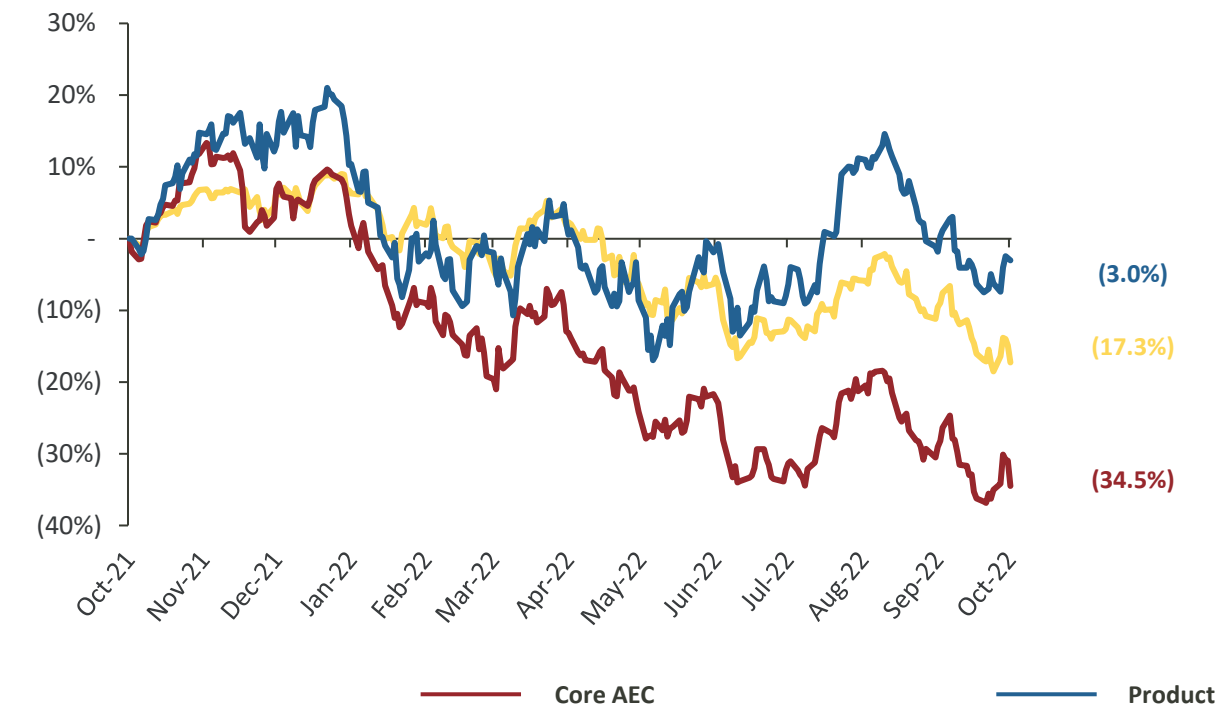
# Select Public Company AEC Software Acquisition Activity



# AEC Sector Public Company Trended Stock Performance

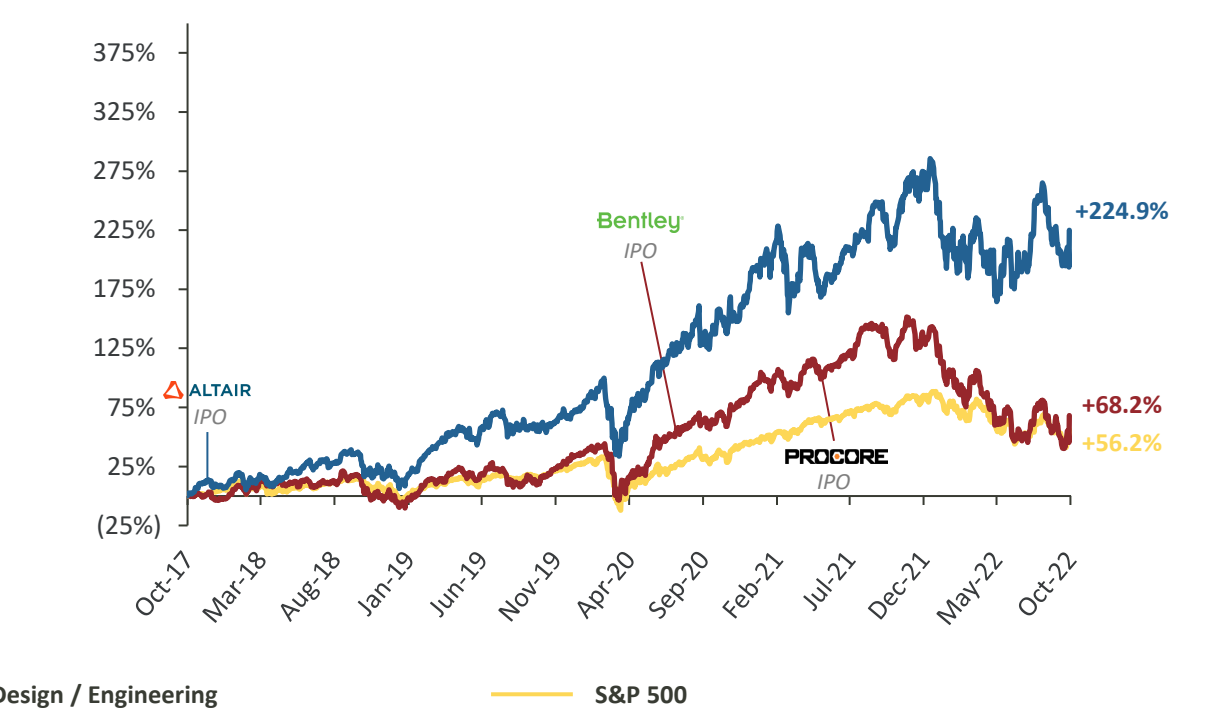
## Public Company Stock Performance – Last 12 Months

Indexed stock price performance for the period October 2021 – October 2022



## Public Company Stock Performance – 5 Years

Indexed stock price performance for the period October 2017 – October 2022



Core AEC

AUTODESK

Bentley

DASSAULT SYSTEMES

HEXAGON

NEMETSCHKEK GROUP

PROCORE

Schneider Electric

Trimble

Product Engineering / Design

ALT AIR

Ansys

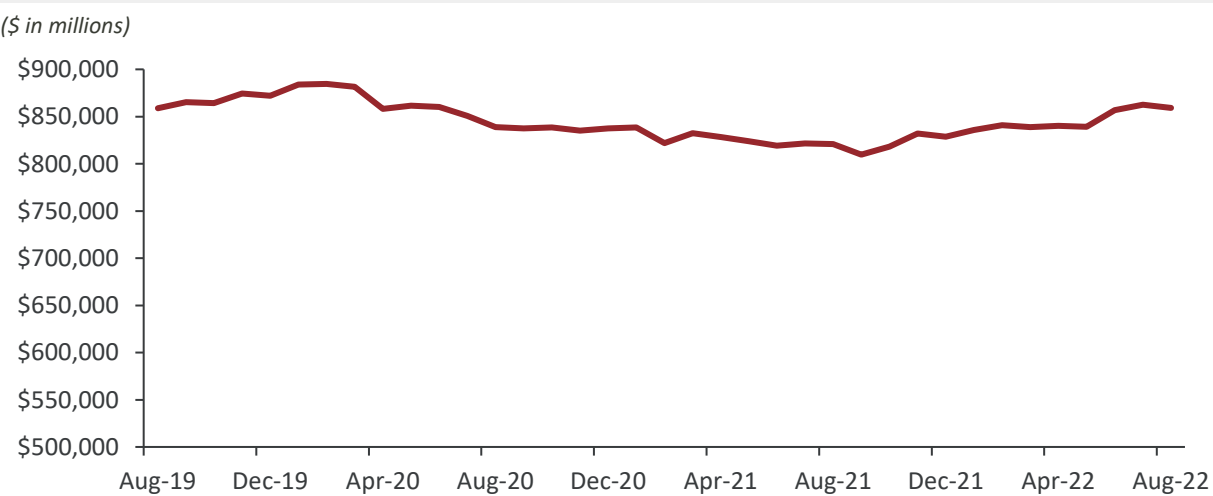
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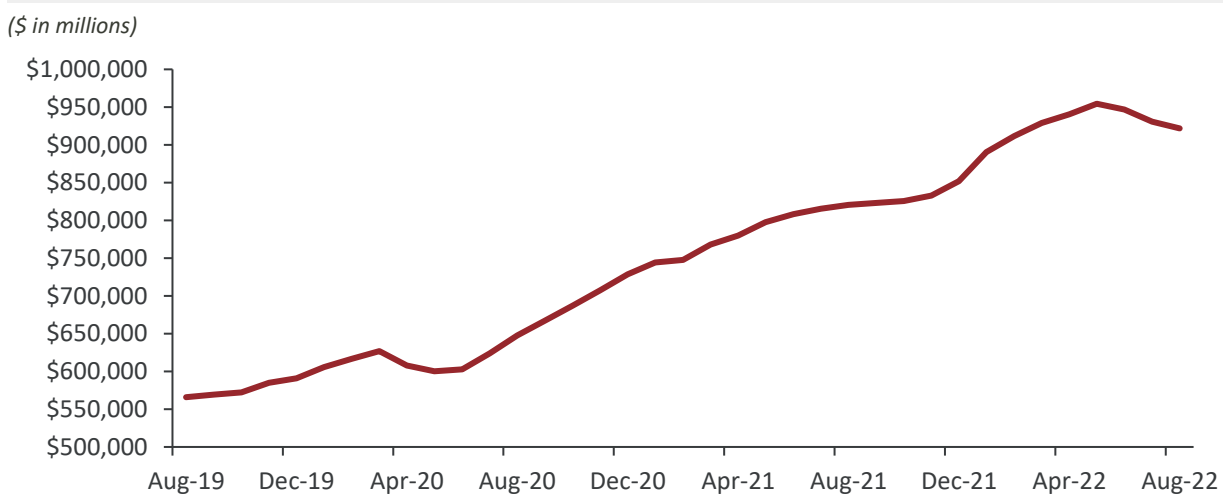
SYNOPSYS

# Overall Construction Macroeconomic Environment

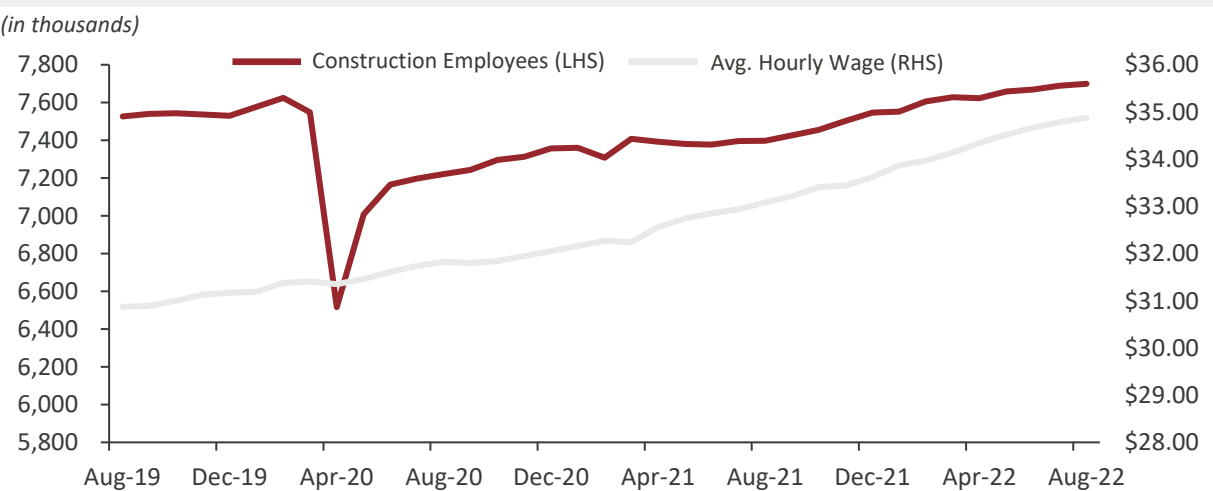
Value of Construction Put in Place – Non-Residential <sup>(1)</sup>



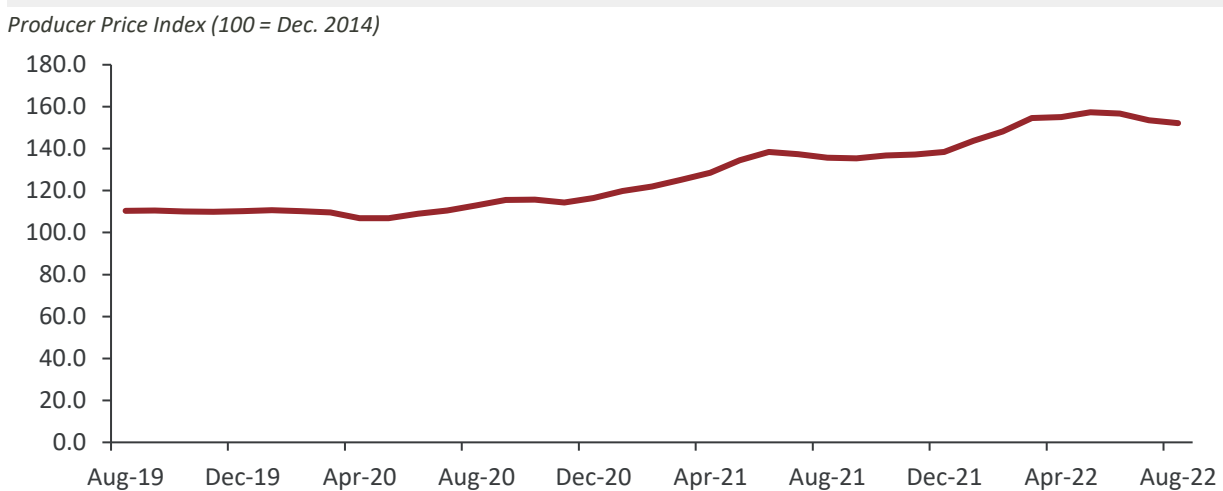
Value of Construction Put in Place – Residential <sup>(1)</sup>



Construction Employment <sup>(1)</sup>



Net Inputs to New Construction <sup>(2)</sup>

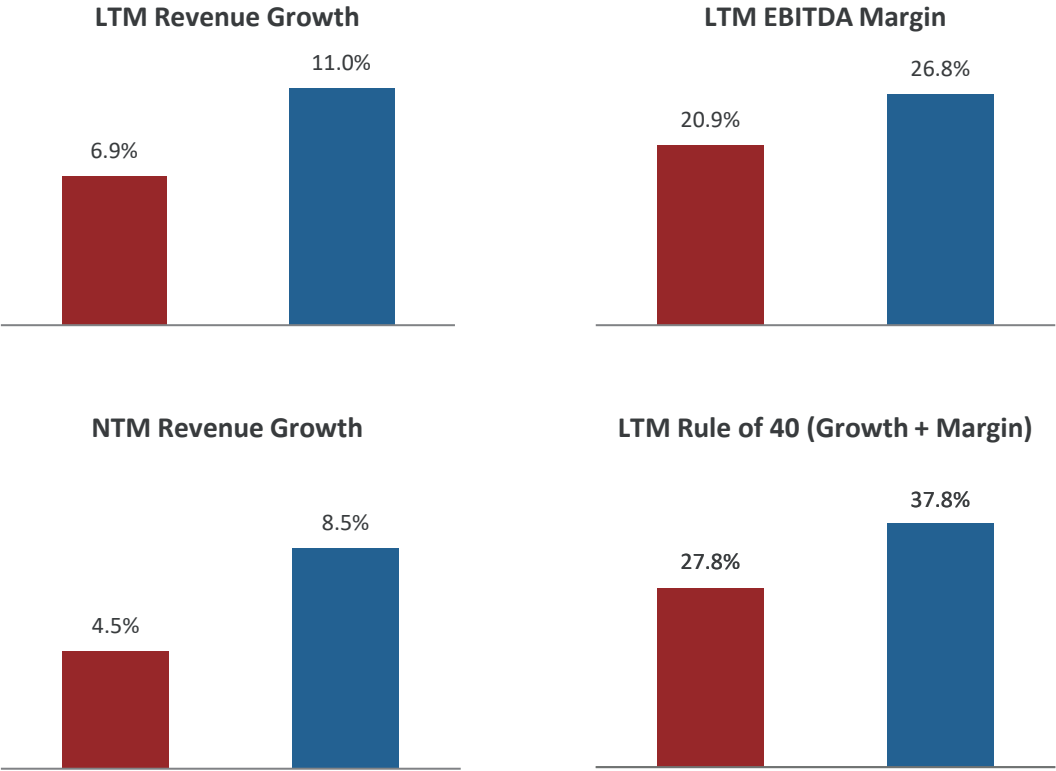


(1) Source: Federal Reserve Bank of St. Louis – Economic Research Division  
(2) Source: U.S. Dept. of Labor – BLS PPI Index for net inputs to new construction, excluding capital investment, labor, and imports (WPUIP231000)

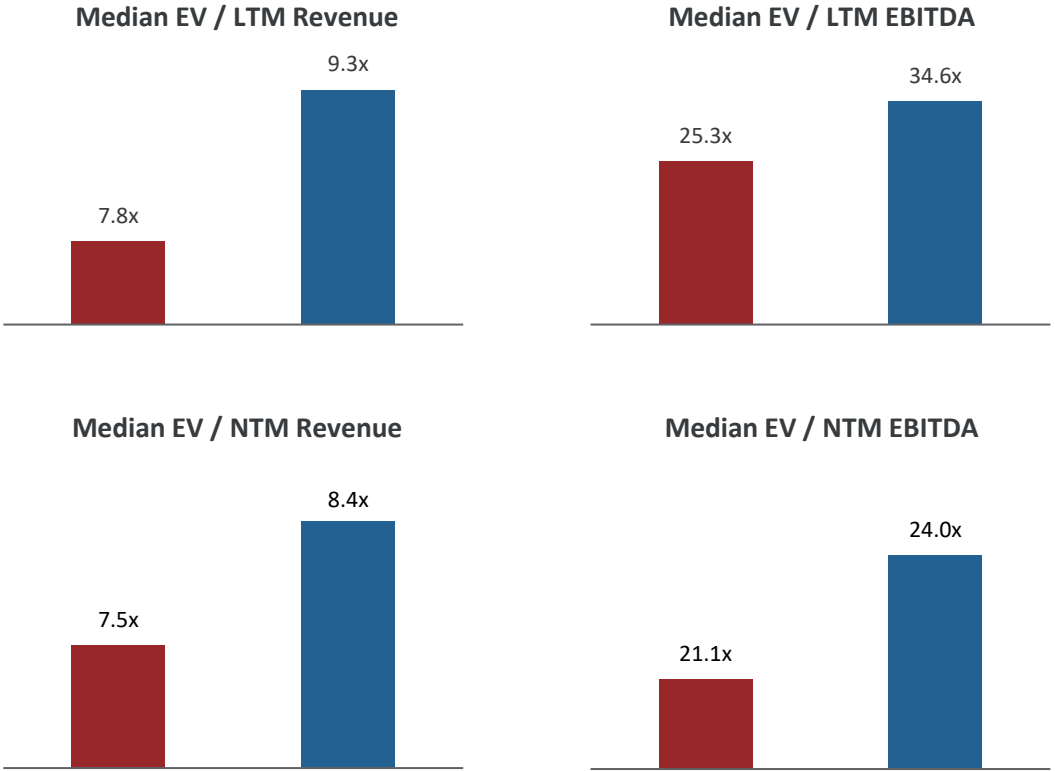


# AEC Public Company Operating and Valuation Metrics

## Public Company – Operating Metrics<sup>1</sup>



## Public Company – Valuation Metrics<sup>1</sup>



Core AEC

AUTODESK

NEMETSCHEK GROUP

Bentley®

PROCORE

DASSAULT SYSTEMES

Schneider Electric

HEXAGON

Trimble®

Product Engineering / Design

ALTAIR

ptc®

Ansys

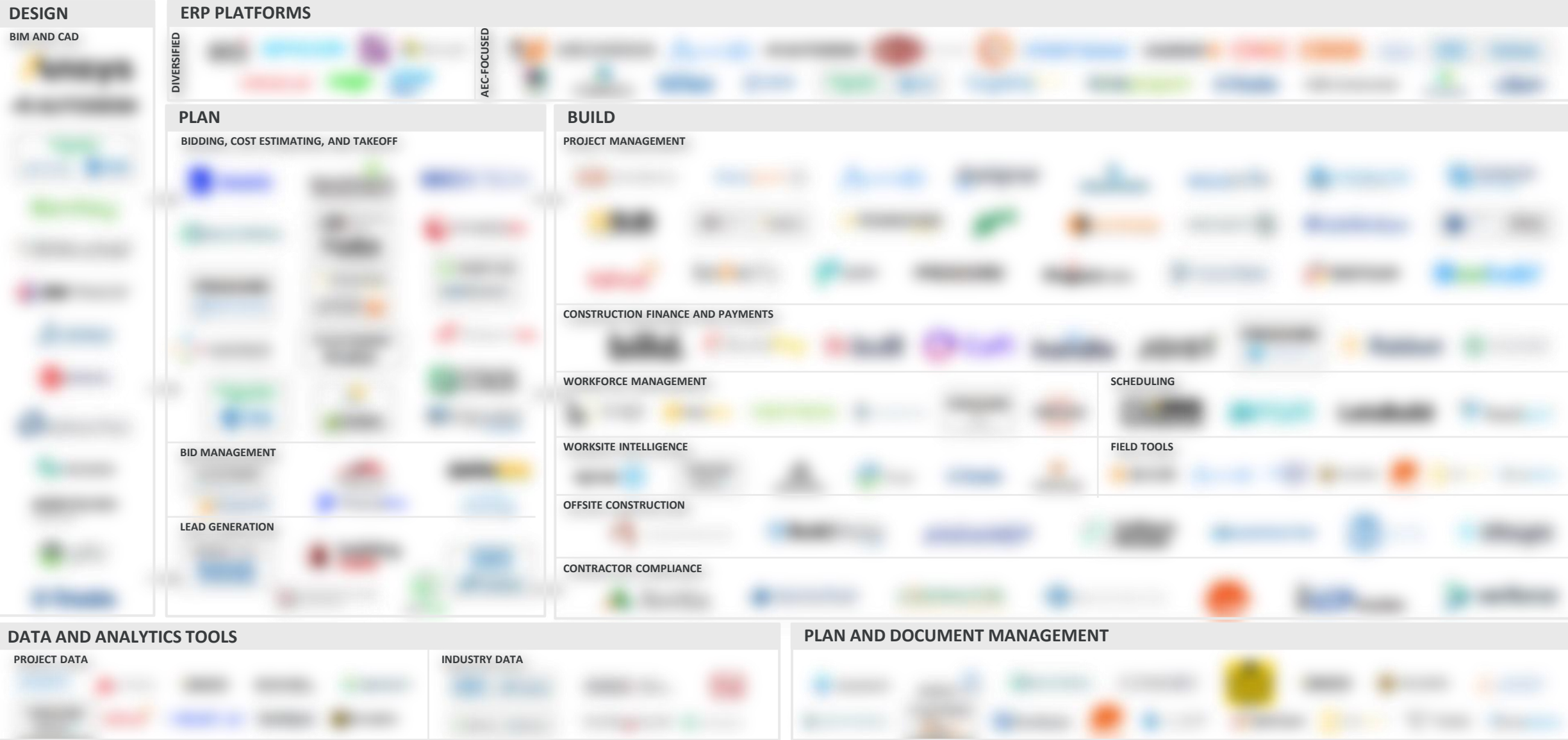
synopsys®

cā dence®

# AEC Market Landscape

To view full market map, please contact:

[hwtech\\_AEC/RE@harriswilliams.com](mailto:hwtech_AEC/RE@harriswilliams.com)



# Harris Williams: At a Glance



- **30 years** and thousands of deals closed
- **70%** of revenue from repeat clients
- **100%** of revenue is from M&A advisory
- **8** offices across the U.S. and Europe
- **10** industry groups with deep sector expertise

## The Harris Williams Technology Group

### Technology Coverage Areas

- Application Software
- Infrastructure & Security Software
- IT & Managed Services

### Sector Coverage Areas

- **Architecture, Engineering, & Construction**
- Education
- Human Capital Management
- Pharma
- Compliance
- Government & Public Sector
- Industrial
- Legal
- Real Estate & Property Tech
- eCommerce & Retail
- Healthcare
- Office of the CFO
- Supply Chain & Logistics

### Thematic Focus Areas

- SaaS/Cloud
- Integrated Payments
- Digital Transformation
- AI/Machine Learning

### Harris Williams Technology Group Contacts

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# Harris Williams Technology Group Transaction Experience

 has received a significant investment from  	 a portfolio company of  has received a strategic investment from 	 has made an investment in 	 a subsidiary of  a division of  has been acquired by 	 a portfolio company of  has received a significant growth investment from 	 has acquired  a business division of 	 has recapitalized 	 has acquired 	 a portfolio company of  has been acquired by 	 a portfolio company of  has been acquired by 
 a portfolio company of  has been acquired by 	 a portfolio company of  has been acquired by 	 a portfolio company of  has been acquired by 	 has acquired  a portfolio company of  	 a portfolio company of  has been acquired by  	 a portfolio company of  has received a significant investment from 	 has been acquired by 	 has acquired 	 a portfolio company of  has been acquired by 	 the artisans of ERP software has been acquired by  a portfolio company of  and funds managed by 
 a portfolio company of  has been acquired by 	 a portfolio company of  has been acquired by 	 a portfolio company of  has been acquired by 	 CAPITAL PARTNERS LLC has invested in 	 has acquired 	 has acquired 	 has acquired  a portfolio company of 	 has been acquired by 	 a portfolio company of  has been acquired by 	 has made a significant investment in 
 a portfolio company of  has been acquired by 	 has acquired 	 has invested in 	 a portfolio company of  has been acquired by 	 has been acquired by 	 a portfolio company of  has received an investment from 	 a portfolio company of  has been acquired by 	 a portfolio company of  has acquired 	 has joined  to invest in 	 a portfolio company of  has been acquired by  a portfolio company of 

# Harris Williams Capabilities and Locations



Harris Williams has a broad range of industry expertise, which creates powerful opportunities. Our clients benefit from our deep sector experience, integrated industry intelligence and collaboration across the firm, and our commitment to learning what makes them unique. For more information, visit our website at [www.harriswilliams.com](http://www.harriswilliams.com).

	Aerospace, Defense & Government Services		Business Services		Building Products & Materials		Consumer		Energy, Power & Infrastructure
	Healthcare & Life Sciences		Industrials		Specialty Distribution		Technology		Transportation & Logistics

## Office Locations

### United States

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San Francisco, California 94105  
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Washington, DC 20006  
Phone: +1 (202) 207-2300

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Germany  
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4th Floor  
London, England W1S 2ER  
Phone: +44 020 7518 8900



# Sources and Disclosures

## Sources

1. S&P Capital IQ
2. Pitchbook
3. <https://www.constructiondive.com/news/nonresidential-construction-spending-dips-contractors-optimistic/633272/>
4. [https://www.wsj.com/articles/lumber-prices-fall-back-to-around-their-pre-covid-levels-11664239652?mod=hp\\_lead\\_pos5](https://www.wsj.com/articles/lumber-prices-fall-back-to-around-their-pre-covid-levels-11664239652?mod=hp_lead_pos5)
5. <https://www.enr.com/articles/54588-tomorrows-equipment-operators>
6. <https://www.constructiondive.com/news/procore-fintech-expansion-opportunities-construction-earnings/629352/>

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## Appendix

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# Recent Sector M&A Transactions Detail

Closed Date	Target	Acquirer	Business Description	Enterprise Value (\$M)	Implied EV / Revenue	Implied EV / EBITDA
Pending	AVEVA	Schneider Electric	AVEVA is a provider of engineering design, information management, and software solutions for the AEC, energy, and other end markets.	\$12,294.1	8.3x	78.7x
Pending	BIM SPOT	smino	BIM SPOT provides a software solution that supports the BIM-based process of building design, construction, and operation.	NA	NA	NA
Pending	Quest Construction Data Network	BuildCentral	Quest Construction Data Network develops SaaS-based bid management systems for public construction, RFPs, and general goods and services procurement.	NA	NA	NA
09/28/22	Computer Line Associates	CADMATIC	Computer Line Associates provides software solutions and services to EPC contractors and infrastructure owner-operators.	NA	NA	NA
09/14/22	LoadSpring Solutions	Blattner Technologies	LoadSpring Solutions develops and provides cloud-computing based project management software.	NA	NA	NA
09/14/22	B2W Software	Trimble Inc.	B2W Software Inc. provides construction software, services, and solutions for the heavy construction industry.	NA	NA	NA
09/01/22	Cartegraph Systems	OpenGov	Cartegraph Systems is a provider of asset management software for government agencies, utilities, and educational institutions.	\$400.0	NA	NA
09/01/22	Cloudmilling	PTC	Cloudmilling develops and operates a cloud-native CAM platform for machinists and engineers.	NA	NA	NA
08/22/22	Bimfire Tools	Symetri	Bimfire Software is a provider of a Revit plugin for fire safety design, which integrates fire safety information directly into the BIM process for a digital workflow.	NA	NA	NA
08/18/22	Computer Aided Technology	GoEngineer	Computer Aided Technology distributes and implements software and hardware solutions for 3D solid modeling and analysis, and enterprise-wide data management.	NA	NA	NA
07/29/22	Nativ Labs	Built Technologies	Nativ Labs Inc develops and operates a deal management enterprise software for commercial real estate investment industry.	NA	NA	NA
07/12/22	SingleOps LLC	FTV; Five Elms Capital	SingleOps LLC develops business management and cloud-based scheduling software solutions.	NA	NA	NA
07/12/22	Resource and Financial Management Systems (RFMS)	Compusoft + 2020 (TA Associates)	RFMS is a provider of ERP, CRM, measuring, and estimating applications, and payment solutions to the flooring industry.	NA	NA	NA
07/06/22	BoCad 2 software division of AVEVA	Schuller & Company	BoCad 2 is a provider of 3D software solutions for the design of steel structures, cladding, glazing, and timber for the AEC industry.	NA	NA	NA



# Public Market Operational and Valuation Metrics<sup>(1)</sup>

\$ in Thousands									
Company	Market Capitalization	Enterprise Value	% of 52-Week High	LTM Gross Margin	LTM EBITDA Margin	Enterprise Value/			
						LTM Revenue	NTM Revenue	LTM EBITDA	NTM EBITDA
Core AEC									
Schneider Electric S.E.	\$63,655,110	\$77,227,136	65.4%	40.6%	18.6%	2.4x	2.4x	12.7x	11.8x
Dassault Systèmes SE	46,055,807	46,578,491	62.9%	84.0%	24.6%	8.5x	8.3x	34.6x	22.1x
Autodesk, Inc.	40,322,471	41,842,471	55.7%	91.6%	20.9%	8.8x	7.9x	42.3x	21.1x
Hexagon AB	25,389,301	29,190,890	71.1%	64.6%	31.5%	5.9x	5.6x	18.7x	14.4x
Trimble Inc.	13,440,368	14,498,768	59.0%	58.2%	20.8%	3.9x	3.7x	18.5x	14.3x
Bentley Systems, Inc.	9,481,266	11,265,979	49.0%	78.4%	19.0%	10.6x	9.7x	55.7x	28.7x
Nemetschek SE	5,575,667	5,594,279	42.4%	54.5%	28.1%	7.1x	7.0x	25.3x	21.8x
Procore Technologies, Inc.	6,769,321	6,295,310	47.0%	80.0%	NM	10.3x	8.2x	NM	NM
<b>Core AEC Median</b>	<b>\$19,414,835</b>	<b>\$21,844,829</b>	<b>57.3%</b>	<b>71.5%</b>	<b>20.9%</b>	<b>7.8x</b>	<b>7.5x</b>	<b>25.3x</b>	<b>21.1x</b>
Product Design / Engineering									
Synopsys, Inc.	\$46,715,943	\$45,901,461	78.1%	80.7%	26.8%	9.3x	8.4x	34.6x	24.0x
Cadence Design Systems, Inc.	44,758,574	44,077,029	83.8%	89.7%	34.5%	13.4x	12.2x	38.9x	29.0x
ANSYS, Inc.	19,303,124	19,671,013	53.6%	90.3%	33.7%	9.9x	9.3x	29.3x	21.1x
PTC Inc.	12,286,983	13,584,577	76.9%	79.5%	25.7%	7.1x	6.6x	27.7x	18.2x
Altair Engineering Inc.	3,535,223	3,449,535	53.3%	77.6%	11.9%	6.2x	5.9x	52.2x	35.1x
<b>Product Design / Engineering Median</b>	<b>\$19,303,124</b>	<b>\$19,671,013</b>	<b>76.9%</b>	<b>80.7%</b>	<b>26.8%</b>	<b>9.3x</b>	<b>8.4x</b>	<b>34.6x</b>	<b>24.0x</b>
<b>Comp Set Median</b>	<b>\$19,303,124</b>	<b>\$19,671,013</b>	<b>59.0%</b>	<b>79.5%</b>	<b>25.2%</b>	<b>8.5x</b>	<b>7.9x</b>	<b>31.9x</b>	<b>21.4x</b>

# Public Market Operational and Valuation Metrics<sup>(1)</sup>

<i>\$ in Thousands</i>									
Company	Market Capitalization	Enterprise Value	% of 52-Week High	LTM Gross Margin	LTM EBITDA Margin	LTM Revenue	NTM Revenue	LTM EBITDA	NTM EBITDA
Residential									
D.R. Horton, Inc.	\$23,402,878	\$28,326,478	61.0%	30.0%	23.1%	0.9x	0.9x	3.8x	3.9x
Lennar Corp.	21,706,469	26,219,013	63.4%	28.2%	22.9%	0.8x	0.8x	3.6x	4.6x
NVR, Inc.	13,088,268	12,622,239	66.6%	26.4%	21.4%	1.3x	1.4x	6.1x	6.8x
PulteGroup, Inc.	8,681,186	10,546,343	64.6%	28.7%	20.1%	0.7x	0.6x	3.5x	3.0x
<b>Residential Median</b>	<b>\$17,397,369</b>	<b>\$19,420,626</b>	<b>64.0%</b>	<b>28.5%</b>	<b>22.1%</b>	<b>0.9x</b>	<b>0.8x</b>	<b>3.7x</b>	<b>4.3x</b>
Engineering, Procurement, and Construction									
Jacobs Solutions Inc.	\$13,843,933	\$17,832,434	72.2%	23.3%	10.4%	1.2x	1.1x	11.7x	12.0x
WSP Global Inc.	13,770,811	15,463,029	80.9%	19.3%	9.5%	1.8x	2.1x	19.1x	12.5x
AECOM	9,547,851	11,632,530	85.5%	6.5%	6.6%	0.9x	0.8x	13.5x	12.4x
Skanska AB (publ)	5,176,920	5,805,968	55.8%	9.9%	5.5%	0.4x	0.4x	7.1x	6.3x
KBR, Inc.	6,009,464	7,482,464	75.9%	10.8%	6.7%	1.0x	1.1x	14.6x	11.1x
Hochtief	3,602,389	4,409,175	66.1%	23.7%	1.1%	0.2x	0.2x	16.6x	3.8x
SNC-Lavalin Group Inc.	2,940,929	4,418,549	63.9%	5.7%	4.6%	0.8x	0.8x	16.3x	9.2x
John Wood Group PLC	961,395	3,069,095	49.9%	11.7%	3.5%	0.5x	0.5x	13.6x	7.5x
<b>EP&amp;C Median</b>	<b>\$5,593,192</b>	<b>\$6,644,216</b>	<b>69.1%</b>	<b>11.3%</b>	<b>6.1%</b>	<b>0.8x</b>	<b>0.8x</b>	<b>14.1x</b>	<b>10.1x</b>
European Public - Private Partnerships									
Vinci SA	\$46,050,205	\$73,832,977	80.2%	14.5%	14.9%	1.3x	1.3x	8.4x	7.5x
Ferrovial SA	16,570,667	25,477,211	83.3%	82.8%	8.1%	3.4x	3.6x	42.2x	33.1x
Atlantia SpA	18,154,162	49,588,408	97.7%	59.5%	60.3%	6.9x	7.4x	11.4x	11.6x
Bouygues SA	9,921,224	18,477,569	74.7%	54.9%	9.8%	0.5x	0.5x	4.6x	4.7x
Eiffage SA	7,714,458	20,497,231	82.9%	82.8%	15.4%	1.0x	1.1x	6.4x	6.1x
<b>Euro Median</b>	<b>\$16,570,667</b>	<b>\$25,477,211</b>	<b>82.9%</b>	<b>59.5%</b>	<b>14.9%</b>	<b>1.3x</b>	<b>1.3x</b>	<b>8.4x</b>	<b>7.5x</b>
<b>Construction Median</b>	<b>\$9,114,518</b>	<b>\$11,089,436</b>	<b>65.3%</b>	<b>21.3%</b>	<b>8.1%</b>	<b>0.9x</b>	<b>0.8x</b>	<b>12.6x</b>	<b>7.2x</b>