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THE ENGINEERING SERVICES market is in the midst of a new consolidation cycle, driven by a significant influx of fresh institutional capital entering the space from both private equity and family office investors. This accelerating investor interest has arrived at a time when the industry is also benefiting from powerful sector fundamentals, including:

- Large industry tailwinds such as the infrastructure bill rollout, expansion of 5G, and ongoing energy transition investments.
- Increased specialization and attractive profit margins; and
- High industry fragmentation and a robust environment for add-on acquisitions.

At the same time, investor conviction in the sector has been supported by a backdrop of successful outcomes. Those include attractive private equity exits such as TRC Companies, Atlas Technical Consultants, and Kleinfelder, in addition to the re-rating of public market valuations as companies like AECOM and Jacobs Solutions have executed transitions away from self-perform construction into pure play specialty engineering and consulting firms. These dynamics have combined to result in a significant increase in M&A activity. Notably, the number of Engineering Services transactions completed annually has nearly doubled since 2015, and private equity participation has significantly expanded to nearly 50% of deals (up from 20%) over the same period.

Inside this report, we explore these compelling themes in greater detail through our proprietary research and interviews with leading executives and investors in the space. Insights shared during our discussions revealed several key learnings:

- Demand for Engineering Services firms is expected to remain robust, supported by long-term mega trends including the federal infrastructure bill rollout, 5G telecom deployments, and carbon-reducing energy transition investments.
- With demand for specialty consulting services high, the key challenge for leaders of Engineering Services firms consistently revolves around labor—improving access to available high-quality labor, utilizing technology to improve labor efficiency, and developing next generation leaders in the post-COVID remote work environment for an industry that has traditionally relied on apprenticeship and mentoring.
- Despite the recent increase in M&A activity, the Engineering Services sector remains highly fragmented with many employee-owned firms or partnerships in need of viable transition options. As a result, we believe the industry is in the early to mid-stages of consolidation in the current cycle, and deal activity will remain strong over the coming years.

CONTRIBUTORS



Jim Thompson is the CEO of DCCM, a role he has held since 2020. Prior to DCCM, he spent 13 years with AECOM during which time he was CEO of International Government Services, and President & CEO of TCB AECOM, which served the southern and southwestern United States.

DCCM is a transportation, water, and power/utility-focused engineering firm providing design, consulting, and program and construction management professional services to the public and private sectors. The company operates a national platform of more than 900 employees across 33 offices with a strategic focus on the high-growth Texas and Southeast markets. Since inception, DCCM has completed 12 acquisitions with backing from private equity sponsor White Wolf Capital Group, Inc., which established DCCM as a platform in December 2020.

"I think the overall agreement across the political aisles is that infrastructure spending is inherently good and warranted at this time. Nobody denies the need for increased capacities on our highway systems, for example. The push for electric vehicles and modifying our transportation infrastructure to accommodate the transition is going to be significant."

- JIM THOMPSON CEO, DCCM





Manik Arora is the CEO of Arora Engineers, a position he has held since 2006. Manik has been a leader in the company since joining the firm in 1993. He started his career in aviation 28 years ago as an intern with the City of Philadelphia's Division of Aviation.

Arora Engineers specializes in providing engineering and consulting services tailored for clients in the aviation, transportation, education, government, and commercial sectors. The firm's mission, Rethinking Infrastructure[®], sets out to maximize its role, impact, and value through innovative engineering design and highly intelligent solutions that not only meet operational needs but also forward clients' business objectives. Jacmel Partners provided a growth equity investment into Arora in May 2022.

"Government organizations–DOTs, airports, even utilities–are outsourcing more and more services and capabilities and are looking for specialty consultants that have a proven track record delivering projects in these critical infrastructure markets. That trend will only increase."

- MANIK ARORA CEO, ARORA ENGINEERS

CONTRIBUTORS



MILO RIVERSO

PRESIDENT, MANHATTAN COLLEGE THE OFFICE OF MILO RIVERSO, LLC (INDEPENDENT INDUSTRY CONSULTANT)

Milo Riverso is a proven senior executive and operator with more than 40 years of experience in the fields of program management, construction, and design management. He most recently served as CEO of STV Group, a position he held since 2011. Since his retirement, Mr. Riverso stays highly active in the industry and community, having recently been appointed as the new President of Manhattan College in New York in 2023.

The Office of Milo Riverso, LLC is an independent business organization formed by Mr. Riverso to facilitate his various industry activities since his retirement as CEO of STV Group. Currently, Mr. Riverso stays active in the Design and Construction Industry as a consultant, advisor and Board member for both investors and executive teams. He also currently serves in leadership roles across many leading industry organizations, including Chair of the National Academy of Construction, member of the Executive Committee of the National ACE Mentor Board, and member of the Management and Executive Committees of the New York Building Congress, among others.

"Private equity and family equity has identified the Engineering sector as ripe for consolidation. Many employee-owned firms or closely held partnerships need to think through transition planning, and I believe that leads to a great deal of opportunity for investors."

- MILO RIVERSO THE OFFICE OF MILO RIVERSO, LLC



TIM SCHMITT CHIEF DEVELOPMENT OFFICER Tim Schmitt is the Chief Development Officer at Parsons Corporation (NYSE: PSN) where he leads the company's M&A program and oversees corporate strategy and market research. Prior to joining Parsons, Mr. Schmitt held positions in corporate development and finance at Polaris Alpha and investment banking at Aronson Capital Partners.

Parsons is a leading disruptive technology provider in the national security and global infrastructure markets, with capabilities across cyber and intelligence, space and missile defense, transportation, environmental remediation, urban development, and critical infrastructure protection. Today, Parson's Critical Infrastructure business unit generates over \$2.0 billion of revenue and is a key focus for Parson's corporate M&A activities.

"The current demand environment for infrastructure solutions is very strong in each of Parsons' key markets driven by historically high spending drivers. Revenue and backlog across the sector continue to grow and reach record levels. I think everyone in the sector has an optimistic view on 2024 through 2026-2027 from a spending tailwinds perspective, which creates a healthy backdrop for M&A activity."

> - TIM SCHMITT CHIEF DEVELOPMENT OFFICER, PARSONS CORPORATION

CONTRIBUTORS

Trilon

TOM SECKER SVP, CORPORATE DEVELOPMENT Tom Secker is a Senior Vice President at Trilon Group and leads the firm's corporate development efforts. Prior to joining Trilon, Mr. Secker was an Investment Director at Aether Investment Partners where he focused on private investments across infrastructure, natural resources, and related sectors.

Alpine Investors established Trilon Group in late 2021 to make strategic investments in the Engineering Services sector. To date, the platform has completed 18 acquisitions of infrastructure consulting firms creating a national platform and establishing key capabilities across its key focus areas of Transportation, Water, Environment, and Community Infrastructure. Alpine plans to invest over \$200 million of equity capital to fund the organic and inorganic growth of Trilon.

"The IIJA only passed in late 2021 and really all through 2022 and most of 2023, the refrain that we were hearing throughout the industry was that none of that money had really started to flow through. So, everyone is sensing the same tailwinds around spending that are coming, and I think quite a few firms think about M&A as an opportunity to grow but also service their backlog, and everyone's backlog is near all-time highs." - TOM SECKER

SVP, CORPORATE DEVELOPMENT, TRILON GROUP

AUTHOR



ELIOTT S. MUSICK MANAGING DIRECTOR INFRASTRUCTURE & ENGINEERING SERVICES

Eliott Musick is a Managing Director and senior member of BGL's Services Investment Banking team where he leads investment banking activities for the Industrial & Infrastructure Services and Commercial and Residential Services sectors.

Eliott's years of experience working with middle market businesses span all facets of M&A advisory, corporate advisory, capital raising, debt financing and principal investing. His clients primarily include private, public, and private equity-backed companies across the industrial, infrastructure, engineering, and commercial services sectors.

"As you look 5 to 10 years down the road, with the institutional capital that has come into the space, those sponsors will need to seek exits. This is going to create new market leaders—both large, national firms and mid-market specialists—as consolidation in the sector continues to play out"

- ELIOTT S. MUSICK MANAGING DIRECTOR, BROWN, GIBBONS, LANG & COMPANY

Aging infrastructure will drive a multi-decade replacement and upgrade cycle which the IIJA spending only begins to address.

Historical underinvestment in the nation's infrastructure will sustain a multi-decade replacement and upgrade cycle. According to the American Society of Engineers (ASCE), years of underfunding have resulted in a long-term infrastructure investment gap that continues to grow, with the ASCE projecting that the infrastructure funding shortfall will increase to \$2.59 trillion by 2029 across all the major infrastructure systems it includes in its study. The ASCE's Infrastructure Report Card, which grades the condition of critical U.S. infrastructure, only recently (2021) showed improvement with the country receiving a cumulative grade of C-(mediocre), marking the first time in 20 years our infrastructure is out of the D range (poor), indicating some progress has been made but significant work remains. "This is not a report card anyone would be proud to take home," said ASCE Executive Director Thomas Smith in a news release. "We have not made the investments to maintain infrastructure that in some cases was built more than 50 years ago."

HISTORICAL UNDERINVESTMENT IN THE NATION'S INFRASTRUCTURE

\$ IN BILLIONS)			
	ASCE Grade	ASCE Definition	Funding Gap
SURFACE TRANSPORTATION			
Roads	D	Poor/At Risk	
Bridges	С	Mediocre	\$1,215
Rail	В	Good/Adequate	Combined
Transit	D-	Poor/At Risk	
AIRPORTS			
	D+	Poor/At Risk	\$111
WATER			
Drinking Water	C-	Mediocre	
Stormwater	D	Poor/At Risk	\$434 Combined
Wastewater	D+	Poor/At Risk	

POWER/UTILITY			
Electricity	C-	Mediocre	\$197

Source: ASCE 2021 Infrastructure Report Card



INFRASTRUCTURE BILL: GAME CHANGER FOR THE INDUSTRY

In November 2021, President Biden signed the \$1.2 trillion Infrastructure Investment and Jobs Act(IIJA) into law. The IIJA represents a generational investment in repairing, upgrading, and modernizing the nation's infrastructure assets. Funds include \$974 billion over five years and \$1.2 trillion if continued for eight years. The bill includes \$579 billion of future incremental federal spending, with the balance consisting of re-authorizations of other Federal infrastructure spending dollars. As of July 2023, only \$124 billion of these funds had been allocated (with significantly less dollars actually spent) indicating a large multi-year tailwind which continues to support robust growth for the industry.

IIJA SPENDING - CURRENT STATUS (JULY2023)

\$ in billions			
CATEGORY	TOTAL FUNDING AUTHORIZED	FUNDING ALLOCATED TO DATE	% OF TOTAL FUNDING Allocated to date
Roads, Bridges & Major Projects	\$326	\$64	20%
Public Transportation	83	5	6%
Clean Energy and Power	75	6	7%
Broadband	64	4	6%
Water	64	5	8%
Passenger and Freight Rail	63	7	11%
Resilience	38	11	28%
Safety	38	5	14%
Airports and Federal Aviation Administration Facilities	25	8	34%
Environmental Remediation	22	1	7%
Electric Vehicles, Buses and Ferries	19	1	6%
Ports and Waterways	17	5	33%
Other	9	0	4%
Total	\$842	\$124	15%

(1) Total Funding Authorized taken from "Building A Better America | Guidebook May 2022"

(2) Funding Allocated to Date as of July 7, 2023. Build.gov (2023). Bipartisan Infrastructure Law (BIL) Maps Dashboard.

Retrieved from https://d2d.gsa.gov/report/bipartisan-infrastructure-law-bil-maps-dashboard.

(3) Passenger and Freight Rail Funding Allocated to Date inclusive of Gateway Tunnel Infrastructure Project which only announced on July 6, 2023.

The consensus among industry participants is that we are at the beginning of the spending cycle. "The IIJA only passed in late 2021 and really all through 2022, the refrain that we were hearing throughout the industry was that none of that money had really started to flow through until probably sometime early this year [2023]," remarked Tom Secker at Trilon Group. "So, I think that most of that money, especially for the front-end planning, design, and consultative work, will likely take about five years to be spent, and that's really just from one bill." "While in 2023 we're beginning to see projects start to receive funding from IIJA dollars, it's not like we're halfway through the spending curve," said Tim Schmitt at Parsons Corporation. "I also don't think there's going to be this cliff in 2026 or 2027, where suddenly we have negative market growth and headwinds from a transportation engineering overall macro perspective. I think it's just going to continue to slowly get pushed to the right, and there will be favorable market fundamentals for the next 7 to 8 years and beyond that."

A severe economic recession or change in government control has the potential to alter that trajectory but the belief was that significant changes

extremely optimistic. 2022 was better than 2021, and 2023 is on track to be better than 2022 as well." Trilon Group focuses on key end markets of

were unlikely. "I think the overall agreement across the political aisles is that infrastructure spending is inherently good and warranted at this time," said Jim Thompson, CEO of DCCM. "Nobody denies the need for increased capacities on our highway systems, for example. The push for electric vehicles and modifying our transportation infrastructure to accommodate the transition is going to be significant."

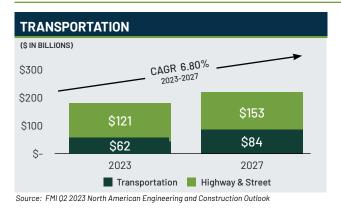
The bipartisan IIJA marks the country's largest investment in infrastructure across all Report Card categories in nearly a century.

> - AMERICAN SOCIETY OF CIVIL ENGINEERS

transportation, water, environmental, and community infrastructure, each of which "has phenomenal long-term tailwinds behind them" Secker opined, underscoring the federal spending wave and ESG directives present in these critical infrastructure markets. "We're also seeing a steady, if not increasing demand, for our services across the spectrum of the end markets we serve," added Jim Thompson of DCCM. Within the public

Overall, market sentiment from industry participants has been positive and feedback indicates that is unlikely to change. "Everyone has more work than they have capacity to complete that work. We easily have the highest backlogs across the entire Trilon family of companies that we've ever had," shared Tom Secker at Trilon Group. "So, I think everyone is sector, DCCM serves the transportation, water, and power and utilities markets. "We're very fortunate to have been focused in geographies with attractive demographics and population growth that have been proven very recession resilient," Thompson added, referring to DCCM's Texas and Southeast footprint.

HIGH GROWTH INFRASTRUCTURE END MARKETS



The U.S. transportation market is projected to expand from \$183 billion to \$237 billion between

2023 and 2027, or 6.80% annually over the period.

Transportation is the largest beneficiary of the IIJA with more than \$300 billion allocated to the sector. "The transportation sector is booming. Money from the Infrastructure Act has started to flow. Design is happening. There's a shortage of engineers for the market, but the work is flowing very quickly," observed Milo Riverso of The Office of Milo Riverso, LLC.

"Government organizations—DOTs, airports, even utilities—are outsourcing more and more services and capabilities and are looking for specialty consultants that have a proven track record delivering projects in these critical infrastructure markets. That trend will only increase," added Manik Arora of Arora Engineers.

ROADS & BRIDGES

According to the American Society of Civil Engineers (ASCE), historical underinvestment in roadway maintenance has resulted in a \$786 billion backlog of road and bridge capital needs, the majority pegged to repairing existing roads (\$435 billion) and bridges (\$125 billion). A further \$120 billion is targeted for system expansion and \$105 billion for system enhancement (which includes safety enhancements, operational improvements, and environmental projects).

The resulting strong demand for consulting services goes far beyond traditional civil engineering and design. As the various Departments of Transportation (DOTs) shed construction engineering and inspection (CE&I) responsibilities to the private sector, industry participants are seeing higher demand for their services. "We're seeing an increased funding in the CE&I business, which is beyond anything that we've experienced historically," indicated Jim Thompson of DCCM. "The DOTs are now adapting to outsourcing more of that work." DOTs are recruiting less and are having a major shift in their delivery model, Thompson indicated, retaining project management and program management while outsourcing all the resources required for project delivery.

Demand is also increasing for specialty services such as sophisticated transportation planning and traffic modeling executives said.

RAIL & TRANSIT

The IIJA is increasing federal support authorizing \$83 billion for public transportation and \$63 billion for passenger and freight rail. "We're very excited about transit and rail," Manik Arora of Arora Engineers shared. "There is a lot of acceptance to build new and enhance existing rail facilities. Major stations like Union Station and Grand Central Station, as well as ancillary regional stations, want to extend connectivity out to the neighborhoods and create economic development for the metropolitan cities that they serve," he added.

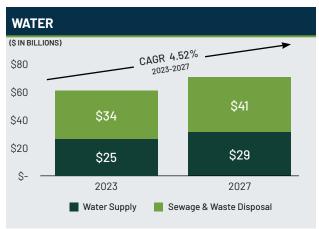
High speed tunneling will be a growth area in rail, according to Milo Riverso of The Office of Milo Riverso, LLC, who highlighted the Northeast corridor as a prime rail system for this development. "You can't accelerate the Northeast rail anymore above ground, given the neighborhood setting and cities it goes through." He continued, "I really do believe-whether it's in Chicago, going from O'Hare Airport to downtown through a tunnel, whether it's in the Northeast corridor of Acela, whether it is portions of the high-speed rail that will have to go below ground in a seismic area like Los Angeles-to speed up regional rail, you're going to go below ground." High-speed tunnels will result in growing demand for specialty engineering expertise "...that can only grow as more and more rail systems go below ground," indicated Riverso.

AVIATION

"Aviation is an incredible industry to be in. It's been exacerbated due to the pandemic," said Manik Arora of Arora Engineers, speaking to less terminal capacity and fewer runways to accommodate increased volume as passenger travel has resumed in earnest post-COVID. U.S. airports were facing growing capacity challenges prior to the pandemic, with terminal, gate, and ramp availability not meeting the needs of a growing passenger base. "And much of the infrastructure is aged, creating a perfect storm for private capital to flow into the market, Arora observed. "As interest rates went to zero during the pandemic, investors were procuring capacity to be ready when COVID was leaving."

The ASCE rated U.S. airports D+, citing a projected 10-year funding shortfall that exceeds \$110 billion resulting from historical underfunding. With \$25 billion allocated to airports from the IIJA, additional capital is coming from public private partnerships. "There is a lot of money that's coming from large financiers and design builders that are sweeping the market," Arora said. For example, Carlyle Airport Group is one of the sponsors in the \$9.5 billion construction of the New Terminal One at JFK Airport, which is the largest private investment ever committed to a U.S. airport terminal, according to a Carlyle statement.

"There's a renaissance going on in the aviation market. They are building airports left and right, and these are billion-dollar programs, not million-dollar programs," said Arora. Capital programs are increasing where there is population migration, Arora indicated, with dollars flowing towards ecosystems that are growing. "In California, Ontario, Burbank, and Sacramento all have billion-dollar programs because they want to be the overflows for the large hub airports like LAX, and they see the opportunity to take market share or at least help alleviate capacity. That's where the smart money is going."



Source: FMI Q2 2023 North American Engineering and Construction Outlook

The water market is expected to grow from \$59 billion in 2023 to \$71 billion by 2027, representing a CAGR of 4.52% over the period. The IIJA provides over \$60 billion for water-related infrastructure. Among the major EPA program goals, these funds are targeting resources to disadvantaged communities, removal of lead pipes, and addressing PFAS and other emerging contaminants.

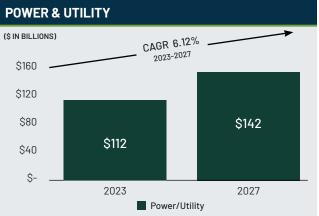
The Federal government, in particular, is focused on the replacement and upgrades of lead pipes within U.S. water and wastewater infrastructure as the average U.S. water-network pipe is 45 years old. According to a recent EPA report, an estimated 9.2 million lead pipes serviced American homes in 2021, representing over 9% of the nation's service line infrastructure.

"We're seeing high demand for environmental remediation, and this often converges with water. The preponderance of emerging contaminants and the need to provide remediation extends to both our federal and the commercial customers," commented Tim Schmitt at Parsons Corporation. "We're looking to bolster our capabilities in water and environmental remediation, one from a scale perspective, but also to gain new customers or disruptive technologies. We think the tailwinds in water and environmental remediation have the potential to outpace a lot of our other verticals, and we're uniquely positioned to support both the Federal and Infrastructure end customers."

Within water subdisciplines, participants are seeing high demand for hydraulics and hydrology in water resource management.

"There is a big focus on climate resiliency programs particularly in places that are more susceptible to hurricanes and other natural disasters," said Tom Secker at Trilon Group. "Municipalities and state governments have realized that they do need to enact more of those plans to get ahead of the next storm, which is always right around the corner. It is an increasing area of growth."

With the IIJA earmarking \$75 billion to address aging utility infrastructure, the utility market is



Source: FMI Q2 2023 North American Engineering and Construction Outlook

expected to grow from \$112 billion in 2023 to \$142 billion by 2027. Increased funding is supporting the energy transition for more efficient power delivery and aging infrastructure upgrades. "Power and utility markets are very strong. The location of power generation is changing from fossil fuel burning to solar and wind as are the types of plants to produce the power," remarked Milo Riverso of The Office of Milo Riverso, LLC. Currently, more than 60% of the U.S. grid is powered by fossil fuels while renewables nearly doubled their share of energy production since 2010. The Energy Information Administration (EIA) predicts that renewable energy will supply more than 40% of U.S. electricity by 2050.

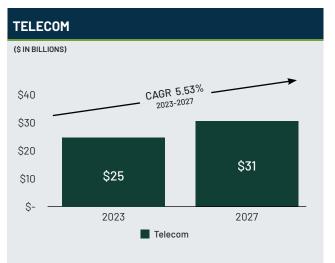
All three major components of the electric grid (generation, transmission, and distribution) have an investment gap. To meet the latest state-driven Renewable Portfolio Standards in generation infrastructure, the gap is projected to grow to a cumulative \$197 billion by 2029.

> - AMERICAN SOCIETY OF CIVIL ENGINEERS



Electric vehicles (EV) are creating tremendous load demand on the grid which, combined with the shift to renewable power sources generating from different physical locations, will require significant additions and modifications to the existing power distribution and transmission networks, Riverso shared. "The transition to a vehicle market dominated with electric vehicles (EVs) will take years to fully develop, but it has begun," said S&P Global Mobility analyst lan McIlravey. "With the transition comes a need to evolve the public vehicle charging network, and today's charging infrastructure is insufficient to support a drastic increase in the number of EVs in operation." According to S&P Global Mobility forecasts, the number of EV chargers will need to guadruple between 2022 and 2025 and grow more than eight-fold by 2030 to meet forecasted sales demand. The U.S. charging infrastructure consists of more than 140,000 EV charging stations today.

Riverso also highlighted fossil fuel bans as another driver of load demand. Certain states have passed measures that restrict building gas use. According to S&P Global Market Intelligence, four states— California, Colorado, New York, and Washington accounted for 24% of the nation's residential gas use and 20% of its commercial gas demand in 2020 with two of these states currently enacting natural gas bans. For example, New York City adopted a gas ban in December 2021 prohibiting gas stoves in all new buildings. Similarly, more than 50 California towns, cities, and counties have passed gas bans or electrification reach codes since 2019.



Source: FMI Q2 2023 North American Engineering and Construction Outlook

The U.S. telecom construction services market was valued at \$25 billion in 2023 and is predicted to continue its growth with a CAGR of 5.53% from 2023 to 2027. Just over two-thirds of the \$64 billion investment from the IIJA will be dispersed through the broadband equity, access, and deployment initiatives, which will focus on middle-mile broadband infrastructure support and digital equity programs.

Fiber penetration levels in the U.S. are low (10%-15%) compared to other developed countries (~50%), underscoring that significant building

is left to do to improve broadband infrastructure. With the rapid pace of technological advancements, demand for faster internet speeds will only increase, necessitating increased infrastructure buildout. According to the National Association of Counties (NACo), in 2020 an estimated 65% of U.S. counties had average connection speeds lower than the Federal Communications Commission's (FCC) definition of broadband.

Aside from the Infrastructure Bill, the Broadband Equity, Access and Deployment (BEAD) Program represented the primary source of funding to build infrastructure for the purposes of increasing adoption of high-speed internet in the U.S. Launched in November 2021 through the National Telecommunications and Information Administration (part of the Department of Commerce), the \$42.5 billion program mandated states to submit 5-year plans, with grant recipients required to deliver minimum downstream (100 Mbps) and upstream (20 Mbps) offering speeds while providing at least one low-cost service plan for subscribers.

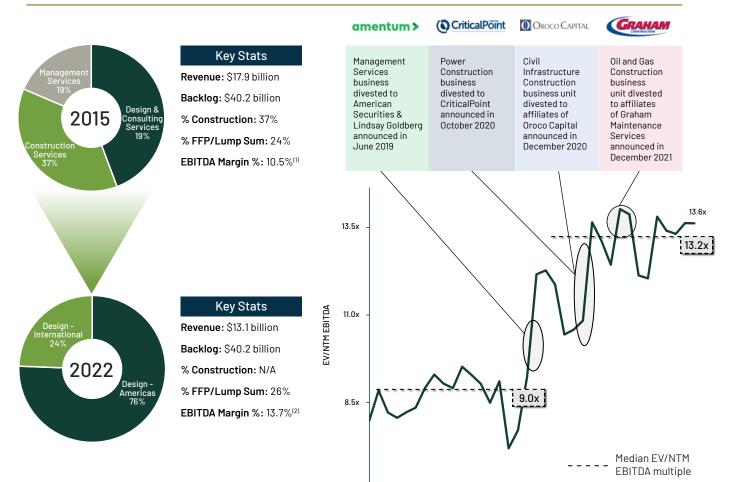
3 EVOLVING E&C BUSINESS MODELS

Public market investors have re-calibrated valuations for listed E&C firms as they have successfully executed strategic portfolio realignments to focus on higher value professional engineering and specialty consulting services.

Companies in the Engineering Services sector have gone through an exercise of de-risking and specializing their business models with a continuing focus on higher value specialty engineering and consulting services and away from fixed-priced self-perform construction. Public company M&A activity is illustrative of this strategy as reflected in the divestitures of at-risk construction assets and acquisitions of specialty consulting services, particularly with a focus on high growth Infrastructure, Environmental, and Energy Transition themes. The transition has decreased the risk profile associated with projects, improved the visibility of revenue and earnings, and enhanced profitability. As a result, the public markets are rewarding these professional services companies with higher valuations.



AECOM EXITS SELF-PERFORM CONSTRUCTION AND GOVERNMENT SERVICES SEGMENT TO BECOME PURE PLAY DESIGN AND SPECIALTY CONSULTING BUSINESS



6.0x

2015

2016

2017

2018

2019

2020

2021

2022

2023

(1) Calculated based on Net Service Revenue that excludes pass through costs of \$8.3 billion (2) Calculated based on Net Service Revenue that excludes pass through costs of \$6.8 billion

3 EVOLVING E&C BUSINESS MODELS

Jacobs

JACOBS EXITS ECR SEGMENT AND COMPLETES STRATEGIC ACQUISITIONS TO REALIGN BUSINESS MODEL AS A CRITICAL PROVIDER OF PROFESSIONAL SERVICES FOR GOVERNMENT, INFRASTRUCTURE, AND COMMERCIAL CLIENTS

2019

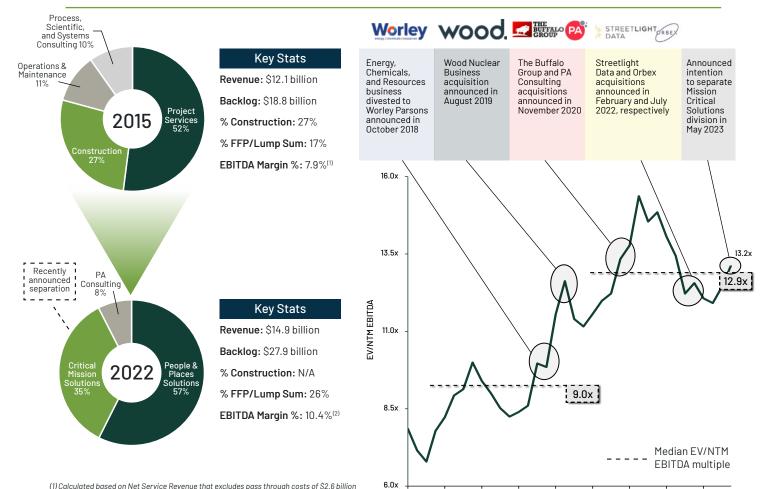
2020

2021

2022

2018

2023



2015

2016

2017

(1) Calculated based on Net Service Revenue that excludes pass through costs of \$2.6 billion (2) Calculated based on Net Service Revenue that excludes pass through costs of \$2.32 billion

4 EXECUTIVE INSIGHTS: KEY OPERATIONAL FOCUS AREAS



As part of our proprietary research on the Engineering Services market, we spoke to a number of executives and operators in the sector around key operational focus areas for their firms. Several common themes emerged from these conversations around labor, diversity, and technology and their critical influence on a firm's success.

LABOR

Labor was cited as the top challenge facing executives as firms respond to an ever-increasing demand for services and as customers require deeper engagement from their providers. In direct conflict is a changing workforce, as organizations

are striving to achieve a more equitable work-life balance which is assuming a more prominent role in employee career choices. Executives are also finding work-at-home policies to conflict with project obligations given the importance

THERE IS NOT ENOUGH CAPACITY OF QUALIFIED PEOPLE TO BE ON ALL THESE LARGE PROGRAMS THAT ARE COMING."

- MANIK ARORA CEO, ARORA ENGINEERS

a whole industry struggling with how to do that virtually," said Milo Riverso of The Office of Milo Riverso, LLC. "At the end of the day, it's bringing people back together, putting them in teams, and working on impactful projects. That's going to attract a lot more

> talent. It's very challenging to do that right now," said Manik Arora of Arora Engineers.

The influx of funds from the IIJA is creating a workload that the industry will have issues with meeting production schedules and quality, executives

of mentoring in the field, which cannot be performed as effectively remotely. These dynamics have made recruiting, developing, and retaining employees more difficult.

"Ninety percent of what an engineer learns is when he or she graduates, working for other engineers, attending meetings, and getting mentored. You have say, as the labor shortage is ongoing. "There simply aren't enough resources with the unique expertise to be able to fulfill the demands that we have," said Jim Thompson of DCCM. Tim Schmitt at Parsons Corporation concurs, "As we've seen in this space over the last few years, the demand and the number of projects outpaces the supply of highly qualified engineers to actually do the work. We're

4 EXECUTIVE INSIGHTS: KEY OPERATIONAL FOCUS AREAS

not going to sacrifice the high standards of our project execution."

"Operationally, we're just still trying to surround ourselves with the best people," Arora remarked. Arora Engineers is exploring creative solutions like forming alliances with other engineering firms. "We're not scared to share work," Arora offered. "We just owe our clients the best quality work at the end of the day."

DIVERSITY

Diversity and inclusion in hiring practices is gaining much needed attention. Just like in the workplace where there has been concerted movement around the inclusion of women in the Board Room, Engineering Services, an industry which has traditionally been underrepresented by people of color and women, is undergoing a similar evolution, Manik Arora of Arora Engineers told us. According to Zippia research, the U.S. engineering workforce is dominated by men (over 86%), while White is the majority ethnicity at over two-thirds (67.9%) of the employed engineers, followed by Asian (15.0%), and Hispanic or Latino (9.1%).

Arora Engineers' professional workforce is comprised of 51% minorities and females, making it one of the largest minority-owned infrastructure services firms in North America, a statistic Arora is proud of, "... because as I grew up through the industry, diversity was not a topic. It was more of a participation goal. And we want to change that narrative, and it's starting to change." In 2022, Arora Engineers received growth capital from Jacmel Partners, an alliance Arora initiated to support not only the business development of the company but also to further its culture of diversity. Arora offered, "The point of partnering with a minority-owned private equity firm is that we believe that it's time for diversity to matter." He continued, "I don't expect to win work because we're a diverse prime or we have diverse people. I expect to win work because we have the best business for the job."

The over 9 million U.S. minority-owned businesses are poised to play a growing role in public infrastructure projects owed to the IIJA, which authorized \$550 million over five years for the Minority Business Development Agency (MBDA), or \$110 million in annual funding through Fiscal Year 2025. The U.S. Chamber of Commerce calls the funding a "historic opportunity" for MWDBE firms, with the targets doubling from \$48 million appropriated in 2021. In a Memorandum of Understanding, the Department of Labor said they will work to "ensure IIJA investments lead to good jobs and that workers have the training they need to access these jobs, especially women and people of color."

TECHNOLOGY

Technology is rapidly changing the way firms deliver services. Artificial intelligence and digital twins have replaced IoT as the new buzzwords, executives say. "They have a role and a place," said Manik Arora of Arora Engineers, "but we're really trying to differentiate by using them inside of technology that is going to solve labor utilization problems, inventory problems, and time of response and give the real operator a sense of saving money by digital transformation. Everyone has digital transformation on their playbook." These new technologies will enhance efficiency and productivity but will still require human/ computer collaboration for critical problem solving to monitor and develop the technology, believes Milo Riverso of The Office of Milo Riverso, LLC. "Some of the firms have gotten ahead of it. You'll see firms that no longer just have a CIO, they have a CTO to push them in that direction," he said.

4 EXECUTIVE INSIGHTS: KEY OPERATIONAL FOCUS AREAS

"We have been making material investments internally to ensure we take advantage of some of the 21st century approaches to technology, such Al or machine learning," shared Tom Secker at Trilon Group. "One example is traffic-related work. Our engineers can take traffic data from the systems deployed in the field and analyze that data to produce the optimal traffic modeling. They can put data into an Al system and instead of completing project in two hours, it can take two minutes."

Digital twins are seeing greater adoption to solve specific industry challenges and aiding in broader strategy and decision making. In addition to tracking assets that require regular inspection and maintenance such as roadways and bridges, digital twins are also being used for smart city initiatives to plan mobility infrastructure and to cut carbon emissions.

Building Information Modeling (BIM) has progressed from three-dimensional modeling to asset management with the next phase of development the management of buildings for sustainability. "It becomes measuring the utility use, whether it's water, electricity, gas, or maximizing the amount of sunlight for heating and cooling," offered Milo Riverso of The Office of Milo Riverso, LLC. "Buildings will become like living organisms. A computer will control it all." Sustainability is making its way into RFPs. "Corporations with a sustainability mandate want to analyze the time and cost incurred to minimize the carbon footprint of a building. There are clients demanding that right now," added Riverso.

As a feeder for all these new technologies, executives also say that data is growing in importance in asset operations with real-time data critical to the management and operations of the asset or building and predictability of capital programs. "Data at its highest level is, is the new oil at least in transportation," said

Manik Arora of Arora Engineers. "Everyone has the same problem, which is they don't have access to data. Through technology like virtual reality, AI, and enterprise integrations to connect systems, we're trying to aggregate the data and give it back to the airport in many different forms." Arora Engineers' service offering consists of planning and design, and program and construction management (PMCM) where it focuses on aviation and transportation predominantly, in addition to facilities management and data/asset management. Arora continued, "We're starting to see the convergence of planning and design and PMCM with asset management and operations and maintenance. So, we're beginning to see the life cycle of the asset versus just stopping in the design component or construction component."

In an effort to keep up, companies have frequently utilized acquisitions to augment their technological capabilities. NV5 Global has been particularly active building its capabilities in geospatial data solutions, with acquisitions of the Visual Information Solutions business of L3 Harris Technologies (April 2023), Axim Geospatial (February 2023), and Aerial Filmworks (June 2022). Jacobs Solutions acquired StreetLight Data in February 2022 to augment its expertise in mobility analytics. "We're interested in enabling technologies," Tim Schmitt at Parsons Corporation offered. "Geospatial analytics is relevant for both our federal business as well as a lot of our infrastructure clients; cyber capabilities like OT security for utilities customers, which was a driver behind our IPKeys Power Partners acquisition; and intelligent transportation systems. We have an existing capability in-house but are looking to fill gaps via acquisition in this arena."

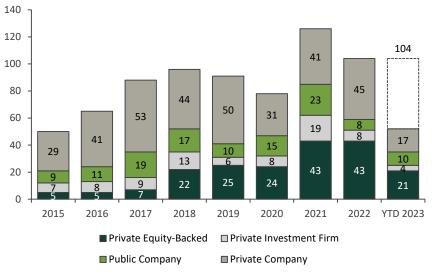
"We're on the cusp of a technology revolution within our business. It is going to be very interesting to see how it plays out in the coming decade," remarked Jim Thompson of DCCM.

Institutional capital is flowing into the Engineering Services market as Private Equity participation in the sector has accelerated. Between 2015 and 2023, new Private Equity platform investments and PE-backed add-on transactions increased from about 20% to nearly 50% of total deal activity. This influx has increased competition for deals and put upward pressure on purchase multiples.

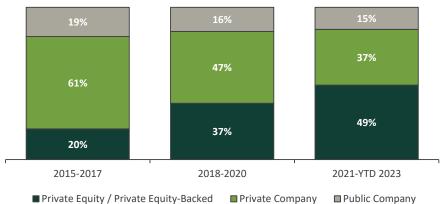
"I think it's been pretty robust," remarked Tim Schmitt at Parsons Corporation. "Clearly, private equity has played a growing role because some ESOP-owned or employee-owned firms like to preserve their brand and would prefer scenarios when they can roll 20% or 30% of the equity but still get a decent payday." Schmitt also noted that Parsons is still owned about 60% by an ESOP. "Although we're publicly traded, we're still majority owned by an active ESOP, which I think resonates or should resonate with some employees of acquired companies that are either coming from an ESOP or coming from a culture of employee ownership. We can preserve that. We can embrace that and represent an option between private equity and a traditional public strategic buyer."

Schmitt also spoke of slightly slowing deal activity in 2023. "Part of that is overall uncertainty, interest rates, and the debt financing markets. I also believe a lot of engineering firms are sitting on decent backlog, see a lot of growth potential over the next two to four years, and are trying to build up their financial profile before exiting when there are still good tailwinds."





Source: S&P Capital IG



PRIVATE EQUITY PARTICIPATION IS ACCELERATING

Source: S&P Capital IG

Although he also cautioned M&A activity remains robust in the sector, and valuations have largely held steady. "While there have been some headwinds over the last 12 or 18 months, I haven't seen much multiple deterioration for companies in the transportation or broader infrastructure market," added Schmitt. "If anything, this sector is a safe-haven and a flight to quality for investors. I think that it's going to be steady state going forward from a valuation perspective."

The deal landscape is "extremely competitive," Tom Secker at Trilon Group told us, which is keeping valuation multiples in the Engineering Services space robust. "Increasingly a lot of the larger publics have the healthiest balance sheets they've had in quite some time, so those firms are now trying to do more M&A in addition to continued strong interest from private equity. Because of that multiples haven't cooled off in any material way," Secker continued. "That is probably going to continue because everyone is sensing the same tailwinds around the spending that's coming. And I think quite a few firms think about M&A as an opportunity to also grow and service their own backlog, which again, everyone's backlog is near an all-time high."

SECTOR M&A STRATEGIES AND MARKET INSIGHTS

Despite a growing volume of transactions, the industry is still in the very early stages of consolidation, supported by a high degree of fragmentation (more than ~130,000 firms), low barriers to entry, and aging leadership which will lead to more opportunities, executives say. "It's an industry where you'll still see a good deal of consolidation going forward, as many employee-owned firms or closely held partnerships need to think through transition planning, and I think there's a lot of opportunity for investors," shared Milo Riverso of The Office of Milo Riverso, LLC. "Private equity and family equity has identified the Engineering sector as a very ripe sector for consolidation."

"Organically, you can't grow that fast because you just can't build enough bench [of engineers]. So, acquisitions are very important," said Manik Arora of Arora Engineers. Arora has set its sights on acquisitions to meet projected growth plans. "We want to grow because we want to meet the market demand before it hits, and we know it's about to hit based on the view we're seeing," Arora said. Arora can leverage its experience in completing acquisitions, following the 2019 purchase of Electronic Data (EDI), a move that expanded its capabilities in asset management.

Despite the expectation for continued industry consolidation, the competitive landscape isn't expected to change dramatically over the next five years. "At the end of the day, infrastructure is local, and local entities like to deal with local companies," said Jim Thompson of DCCM. DCCM plans to continue its acquisitive growth strategy, Thompson said, rooted in the ability to expand the company's service lines, capabilities, and geographies. DCCM has completed 12 acquisitions since 2021. Together, the companies bring expertise in public works, land and site development, and surveying work for the public and private sectors. At the same time, low barriers to entry create opportunity for new entrants. "I think we continue to see consolidation persisting for quite a while,

but eventually, at some point, the entrepreneurial spirit of some of these engineers might take back over, and people will hang out their own five or six firms that are going be able to go after the execution of a \$4 billion project and the financial risks associated with that type of job," Riverso added.

shingle and the pendulum eventually will swing in the other direction. But, I don't think that's likely any time soon," remarked Tom Secker at Trilon Group.

While the overall industry structure may not look materially different, the significant capital inflows coming into the sector have resulted in a high level of middle and lower middle market platform formation. "As you look 5 to 10 years down the road, with the institutional capital that has come into the space, those sponsors will need to seek exits," observed BGL's Eliott Musick, "This is going AS YOU LOOK 5 TO 10 YEARS DOWN THE ROAD, WITH THE INSTITUTIONAL CAPITAL THAT HAS COME INTO THE SPACE, THOSE SPONSORS WILL NEED TO SEEK EXITS. THIS IS GOING TO CREATE NEW MARKET LEADERS— BOTH LARGE, NATIONAL FIRMS AND MID-MARKET SPECIALISTS—AS CONSOLIDATION IN THE SECTOR CONTINUES TO PLAY OUT"

> - ELIOTT MUSICK MANAGING DIRECTOR, BGL

"IPO is always an option if the equity capital markets are available, although it doesn't really seem like there's a huge rush by a lot of firms in the space to go public," Secker offered. "The likely outcome for most of these firms is either a sale to a larger strategic or to another larger private equity firm." Tim Schmitt at Parsons Corporation, commented, "If I had a crystal ball, I

could see a couple of new private equity-backed companies going public over the next 5 to 7 years. I think the market would

to create new market leaders—both large, national firms and mid-market specialists—as consolidation in the sector continues to play out." Milo Riverso of The Office of Milo Riverso, LLC added: "I think in the mid-tier firms there will be a lot of geographical and market services expansion to try to differentiate from, and in some cases compete with, some of the larger firms." It will create more competition and begin to create different classes of execution, Riverso observed. "You're only going to have maybe support that. Institutional investors like this sector, especially if the tailwinds from an overall macro perspective persist over the next 5 to 10 years." Schmitt continued, "Companies like Parsons and our logical peers are always going to have a healthy M&A program. Appetite for larger deals will come and go based on share buybacks, dividends, and other capital deployment priorities, but I think there will always be a good strategic buyer universe to acquire these targets."

COMMON THEMES ARISE FROM RECENT SECTOR M&A

Based on our review and analysis of recent sector M&A activity, we've found that several themes emerge. Private equity platform formation is accelerating as more sponsors look to capitalize on growth from favorable long-term infrastructure spending tailwinds. Sponsor add-on activity remains equally robust to scale new growth platforms more rapidly through geographic and capability expansion. Strategic players increasingly are orienting offerings towards higher-margin specialty consulting services and in some cases are pursuing transformational M&A strategies to reshape portfolios and drive value creation. The prolific pace of strategic tuck-in acquisitions is continuing to grow specialty offerings.

DATE	ACQUIRER	TARGET	DESCRIPTION	
CONTINUED MOMENTU	M IN PE PLATFORM FOR	MATIONS		
SEPT-23		wsb	Transportation, Environmental, and Power/Utility	
SEPT-23	LG		Transportation, Water, Power, and Industrial	
APR-23	OAKTREE	ENERCON	Power/Utility	
APR-23	H. I. G.	T D W E R ENGINEERING PROFESSIONALS	Telecom	
FEB-23	LITTLEJOHN & CO.	ARDURRA	Water and Transportation	
JAN-23	GI PARTNERS	TECHNICAL CONSULTANTS	Transportation and Environmental	
JAN-23	Morgan Stanley	APEX	Environmental	
STRATEGIC PORTFOLIC	TRANSFORMATIONS			
JUN-23	egis	Meintosh Perry	Strategic entry into the North American market	
MAY-23	Jacobs	CMS DIVESTITURE	Critical Mission Solutions spinoff	
JAN-23		rps	Enhanced international presence in Water, Environ- mental, and Energy Transition	
EXPANDING SPECIALTY	Y OFFERINGS			
FEB-23	N V 5		Geospatial Services	
MAR-22		TranSmart	Intelligent Traffic Systems	
FEB-22	Jacobs	STREETLIGHT S <mark>∭</mark> ⊗ DATA	Technology/Data Analytics for Traffic/ Transportation	
PROLIFIC PACE FOR ADD-ON ACQUISITIONS (MOST ACQUISITIVE FIRMS)				
NUMBER OF ACQUISITIO	NUMBER OF ACQUISITIONS 2022 - YTD 2023			
Trilon	18 Acquisitions	ARDURRA	8 Acquisitions	
	11 Acquisitions	RACING COMPANIES BACTOR COMPANIES	7 Acquisitions	
DCCM	8 Acquisitions	SRT 🎸	7 Acquisitions	

SIGNIFICANT RECENT STRATEGIC ACTIVITY



SIGNIFICANT RECENT STRATEGIC ACTIVITY



SIGNIFICANT RECENT PRIVATE EQUITY PLATFORM ACTIVITY

DATE	ACQUIRER	TARGET
Sep-23	GHK Capital Partners LP	WSB & Associates, Inc.
Sep-23	Lindsay Goldberg LLC	The Kleinfelder Group, Inc.
Apr-23	H.I.G. Capital	Tower Engineering Professionals
Feb-23	Littlejohn & Co.	Ardurra
Feb-23	Oaktree Capital Management	Enercon
Jan-23	GI Partners	Atlas Technical Consultants
Jan-23	Morgan Stanley	Apex Companies
Dec-22	Oceansound Partners	Gannett Fleming
Oct-22	Comvest Partners	GAI Consultants
Sep-22	Bernhard Capital Partners	Grace Hebert Curtis Architecture
Sep-22	Imperial Capital	Integral Consulting Inc.
Aug-22	Jacmel Growth Partners	Arora Engineers
Jul-22	Bernhard Capital Partners	KC Harvey Envrionmental
Jul-22	Copley Equity Partners	LJB Inc.
Jul-22	RTC Partners	Verdantas
Jun-22	Warren Equity Partners	Think Power Solutions
May-22	Blackstone	Geosyntec Consultants
May-22	GISI	GEI Consultants
May-22	White Wolf Capital Group, Inc.	DCCM
Apr-22	Harren Equity Partners	Core States Group
Mar-22	Godspeed Capital	Huckabee
Mar-22	Angeles Equity Partners	Mid-State Engineering & Testing
Feb-22	Keystone Capital	Pinchin
Feb-22	KKR	Resource Environmental Solutions
Feb-22	Alpine Investors	Trilon Group
Jan-22	BDT & Company	Universal Engineering Services
Dec-21	Keystone Capital	VDA
Nov-21	VSS Capital Partners	HFW Companies
Oct-21	Warburg Pincus	TRC Companies
Sep-21	KKR	Environmental Resources Management (ERM)
Aug-21	Wind Point Partners	Vertex
Aug-21	Long Point Capital	MNS Engineers Inc.

SIGNIFICANT RECENT PRIVATE EQUITY ADD-ON ACTIVITY

CLOSE DATE	TARGET	ACQUIRER	PRIVATE EQUITY SPONSOR
Sep-23	EST Inc.	WSB & Associates, Inc.	GHK Capital Partners (Current Sponsor)
Sep-23	Horrocks Engineers, Inc.	Trilon Group, LLC	Alpine Investors (Current Sponsor)
Jun-23	Whitney Bailey Cox & Magnani, LLC	TranSystems Corporation	Sentinel Capital Partners (Current Sponsor)
Jun-23	American Engineers, Inc.	STV Group, Inc.	The Pritzker Organization (Current Sponsor)
May-23	Doucet & Associates Inc.	The Kleinfelder Group, Inc.	Wind Point Partners (Current Sponsor)
May-23	Ransom Consulting, LLC	Pinchin Ltd.	Keystone Capital (Current Sponsor)
May-23	Javan Engineering, Inc.	CHA Consulting, Inc.	First Reserve (Current Sponsor)
Apr-23	Grubbs, Hoskyn, Barton & Wyatt Inc.	Universal Engineering Sciences, LLC	BDT & MSD Partners (Current Sponsor)
Apr-23	Bullock Tice Associates, Inc.	Grace Hebert Curtis Architects, LLC	Bernhard Capital Partners (Current Sponsor)
Mar-23	Taney Engineering, Inc.	The HFW Companies, LLC	Veronis Suhler Stevenson (Current Sponsor)
Jan-23	Amicon Management, LLC	Cumming Management Group, Inc.	New Mountain Capital (Current Sponsor)
Jan-23	Wilson Engineers, LLC	Trilon Group, LLC	Alpine Investors (Current Sponsor)
Jan-23	Borton-Lawson Engineering, Inc.	Verdantas LLC	Pine Street Capital Partners (Current Sponsor)
Jan-23	Carmichael Engineering, Inc.	Universal Engineering Sciences, LLC	Palm Beach Capital (Current Sponsor)
	Consulting and Municipal Engineers, LLP	Trilon Group, LLC	Alpine Investors (Current Sponsor)
Sep-22	SEPI Engineering & Construction, Inc.	TranSystems Corporation	Sentinel Capital Partners (Current Sponsor)
Sep-22	Shephard-Wesnitzer, Inc.	Ardurra Group, Inc.	RTC Partners (Prior Sponsor)
Sep-22	T-O Engineers, LLC	Ardurra Group, Inc.	RTC Partners (Prior Sponsor)
Aug-22	Image Engineering Group, Ltd.	Huckabee Architects Inc	Godspeed Capital Management (Current Sponsor)
Jul-22	Code Unlimited LLC	JENSEN HUGHES, Inc.	Gryphon Investors (Current Sponsor)
Jul-22	300 Engineering Group, P.A.	Ardurra Group, Inc.	RTC Partners (Prior Sponsor)
Jul-22	Blue Oak Energy, Inc.	TRC Companies, Inc.	Warburg Pincus (Current Sponsor)

6 BGL ENGINEERING SERVICES

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BGL has a long history of serving family / entrepreneurially-owned, private equity-backed, and publicly traded companies within the Infrastructure & Engineering Services market and supports its M&A and capital markets advisory efforts with focused proprietary industry publications and regular attendance at industry trade shows.



Please contact BGL's dedicated industry banker if you would like to discuss the report and trends impacting the Engineering Services market.



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