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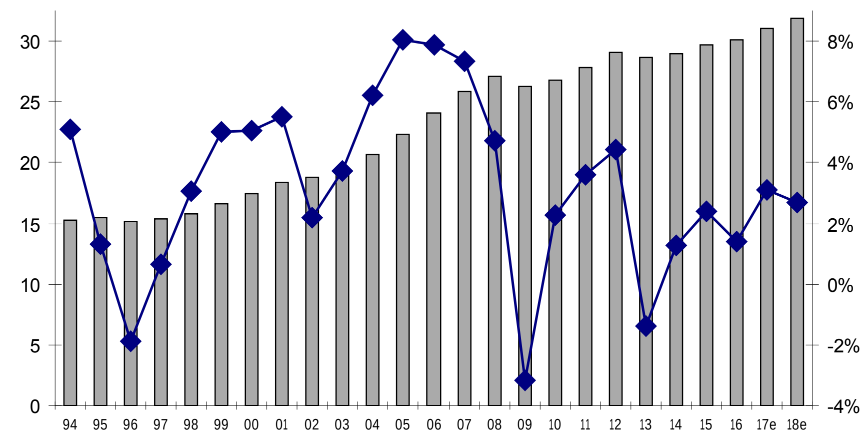
HEADLINE DEALS AND CONSOLIDATION POSE COMPETITIVE QUESTIONS FOR THE C&E INDUSTRY

The U.S. environmental consulting & engineering business grew in 2016. A modest 1.4% growth according to EBJ's calculations based on compiled revenues of more than 600 firms, but growth nonetheless. Preliminary results for 2017 indicate a growth rate of nearer 2%, and the forecast for 2018 at 2-3%. Growth in the largest firms continues to be compromised by declines in federal spending and uncertainties regarding federal programs, as well as by continued pressure in oil & gas and resource commodity markets. Firms with more than $1 billion in environmental C&E revenues declined for the fourth consecutive year in 2016 (see table below), although revenue performance was not quite as polarized as in 2013-2014. While consolidation and headline transactions continue, there is no escaping the fact that, counter to evolutionary trends in almost all other industries, the largest firms have lost share the last few years.

Revenue growth in small and mid-sized firms has exceeded large firms since 2012, and as the chart on page 4 illustrates, the

Annual Size ($bil) and Growth of U.S. C&E Industry: 1994-2018e



Source: EBI, Inc. EBJ's annual models of the environmental consulting & engineering industry.

Inside EBJ

Revenue Performance of U.S. Environmental Consulting & Engineering Firms

Envl C&E Rev	Firms 2013	Firms 2014	Firms 2015	Firms 2016	Net 2016 $mil	2013 Growth	2014 Growth	2015 Growth	2016 Growth
Big >1 bil	6	5	4	4	6,881	-9.1%	-3.4%	-0.1%	-3.6%
Big 100m-1 bil	45	41	45	46	11,848	-2.4%	1.6%	2.2%	3.0%
Mid 20-100 mil	135	136	145	139	5,226	3.3%	6.4%	4.9%	2.7%
Small 10-20 mil	142	146	140	150	1,987	14.3%	5.0%	3.8%	2.0%
Small 5-10 mil	187	191	186	180	1,263	5.1%	6.9%	4.1%	4.7%
Small 1-5 mil	567	566	591	587	1,637	7.9%	7.8%	3.0%	3.6%
Small <1 mil	2,154	2,118	2,148	2156	1,258	5.2%	14.6%	5.0%	4.0%
Total	**3,236**	**3,203**	**3,259**	**3262**	**30,100**	**-1.5%**	**2.3%**	**2.4%**	**1.4%**

Source: Environmental Business Journal's annual model of the U.S. environmental consulting & engineering industry.

previously steady ascent of the share of the top firms peaked in 2012 and has declined since: from 41% for the Top 10 in 2012 down to 38% in 2016; from 61% for the Top 30 in 2012 down to 56% in 2016; and from 86% for the Top 200 C&E firms in 2012 to 81% in 2016, according to EBJ figures. So the obvious question is: Are the last few years an anomaly of overexposure to the federal government and the challenges of massive integrations, or does the fact that the majority of the industry is made up of many relatively small projects and thousands of clients mean there is not an inevitable progression to consolidation?

While the dynamics between the largest firms and the still growing number of small firm—and those in the middle—continue to be an intriguing story, they aren't the only headline in the 2017 environmental consulting business. 2017, like 2014 before it, saw major transactions shake up the landscape of the top firms with the Jacobs-CH2M and Woods-Amec mergers and other 10-figure deals (see chart on page 40), but these big deals were not necessarily in response to any market or structural issues in the industry, nor part of an industry cycle or inevitable concentration at the top. Ownership issues have increasingly become a more predominant strategic factor in the industry, driving the big deals today and expected to drive the pace of transactions on the small firm end of the spectrum for the decade to come. In the 2000s most of the larger C&E transactions were driven by client needs for national or global coverage or for firms to offer turnkey or a larger breadth of services to retain clients, whereas today most are driven more by ownership concerns.

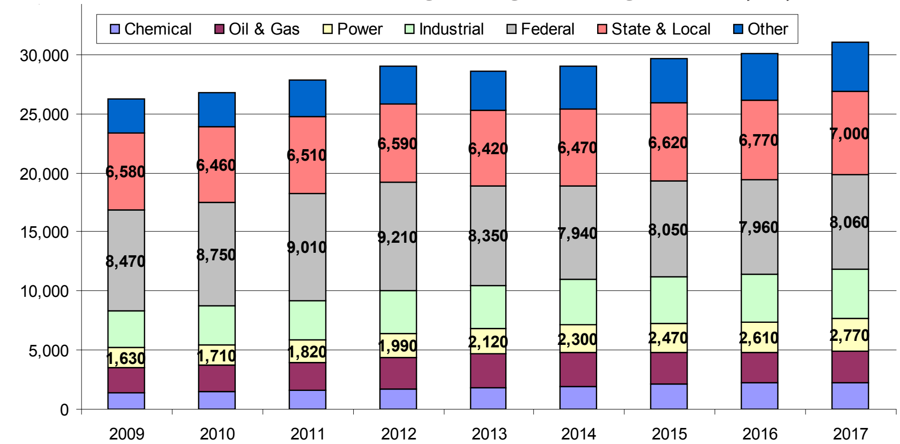
Besides the big deals, other 2017 headlines relate to the much anticipated Trump effect and whether its impact on the industry would be positive or negative. In general most firms remain relatively surprised of the mostly minimal impact the new administration has had on their ongoing flow of project work, although some are wary of a 'boomerang effect' from 2017 cuts in 2018. New federal work remains slow, and for many firms declined in 2016 and 2017, and EPA activity clearly was curtailed, but the engine of the American economy continued to turn for the environmental in-

Gross Revenue Performance of Environmental C&E Firms

	2009	2010	2011	2012	2013	2014	2015	2016
Flat	7%	8%	9%	9%	8%	8%	7%	8%
Growth	33%	65%	57%	60%	64%	62%	72%	70%
Decline	60%	28%	34%	31%	29%	30%	20%	22%

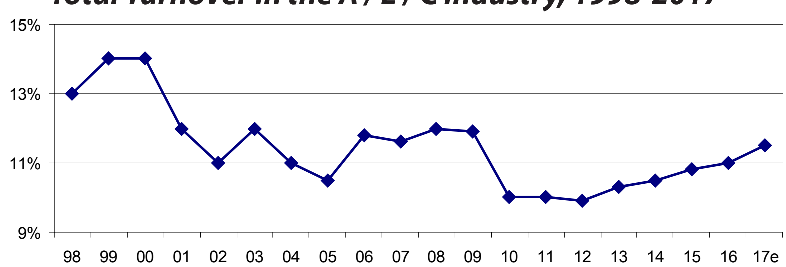
Source: EBJ's database of C&E firms; 600-700 with revenues reported in 2009-2016; Flat represents less than 1% growth or decline or 'Flat' in response to survey or interview

U.S. Environmental Consulting & Engineering Industry by Client



Source: EBJ annual models of the U.S. environmental C&E industry.

Total Turnover in the A / E / C Industry, 1998-2017



Source: Environmental Financial Consulting Group; Based on data from EFCG annual surveys.

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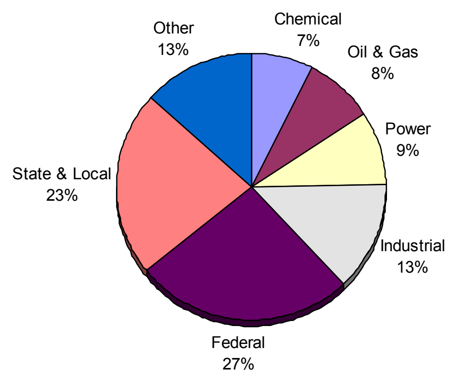
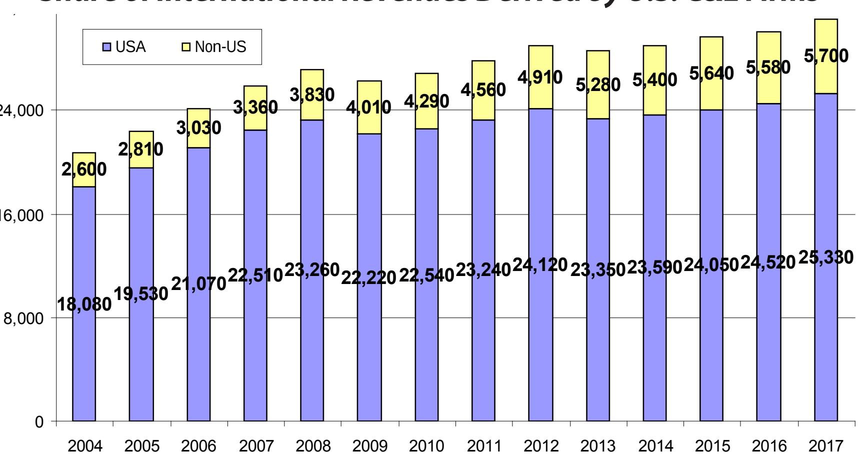
U.S. Environmental Consulting & Engineering by Client in 2017



Source: EBI Inc., based primarily on annual surveys of C&E firms. Oil & Gas includes upstream, mid stream, downstream and retail or gas stations; Power includes utilities and IPPs; Other includes water & waste utilities, financial institutions, developers and commercial establishments.

Share of International Revenues Derived by U.S. C&E Firms



Source: EBI, Inc. EBJ's annual C&E market model derived from compiled geographic revenue breakdowns.

dustry on most cylinders, paced by property development, construction, energy and water more than anything else.

EBJ's 2017 Census of C&E Firms conducted in October-November 2017 to complete our annual data model of the industry presented on these pages, also updated EBJ's client ratings complied in the EBJ Snapshot Survey at the beginning of the year. The table on page 5 compares 'prospects for growth' rankings from executives in January-February 2017 to 10 months later with some fairly surprising results. First in energy, growth prospects in renewables went from near the bottom of the heap to the top, while oil & gas categories all tumbled down the chart despite the fact that the price of crude rose beyond expectations in 2017. The DOD and the electronics and technology industries were also counted on to provide more growth in early 2017, but these have both fallen well down the rankings. Moving up 9 and 11 spots, respectively, were commercial and residential development whose positive effect seems to be less geographically isolated as 2017 closes. Utilities, transportation authorities and local government all climbed the rankings even without any apparent movement towards any infrastructure bill.

Infrastructure has been a buzz word as the key to more sustainable environmental market growth for at least the last two or

Top 5 & 10 U.S. Environmental C&E Firms (Gross Environmental C&E Revenues in $mil)

	1995	2000	2005	2010	2011	2012	2013	2014	2015	2016
AECOM	-	355	778	1,768	2,230	2,281	2,128	3,009	3,036	2,942
CH2M	704	1,383	1,880	2,200	2,399	2,465	2,326	2,209	2,217	2,134
Tetra Tech	109	466	930	1,414	1,406	1,667	1,322	1,605	1,580	1,772
Stantec Consulting	-	44	220	645	680	646	720	754	701	1,246
Arcadis	129	154	450	1,143	1,136	1,086	1,031	1,332	1,248	963
Battelle Memorial	436	450	850	1,020	995	949	778	685	906	957
ERM	226	309	487	655	771	905	941	940	946	888
Golder Associates	80	133	363	798	925	1,168	1,174	986	563	785
Jacobs Engineering	130	152	348	237	261	347	546	597	611	770
CDM Smith	307	431	448	607	530	464	489	505	485	484
Total C&E: Net	**15,510**	**17,410**	**22,340**	**26,830**	**27,800**	**29,030**	**28,630**	**28,990**	**29,690**	**30,100**
Top 5	942	2,402	4,258	7,170	7,851	8,144	7,527	8,909	8,781	9,058
Top 5 Share	*5%*	*12%*	*17%*	*24%*	*25%*	*25%*	*23%*	*27%*	*26%*	*27%*
Big 10	2,121	3,877	6,755	10,487	11,333	11,977	11,455	12,621	12,291	12,942
Big 10 Share	*12%*	*20%*	*27%*	*35%*	*36%*	*36%*	*35%*	*38%*	*36%*	*38%*

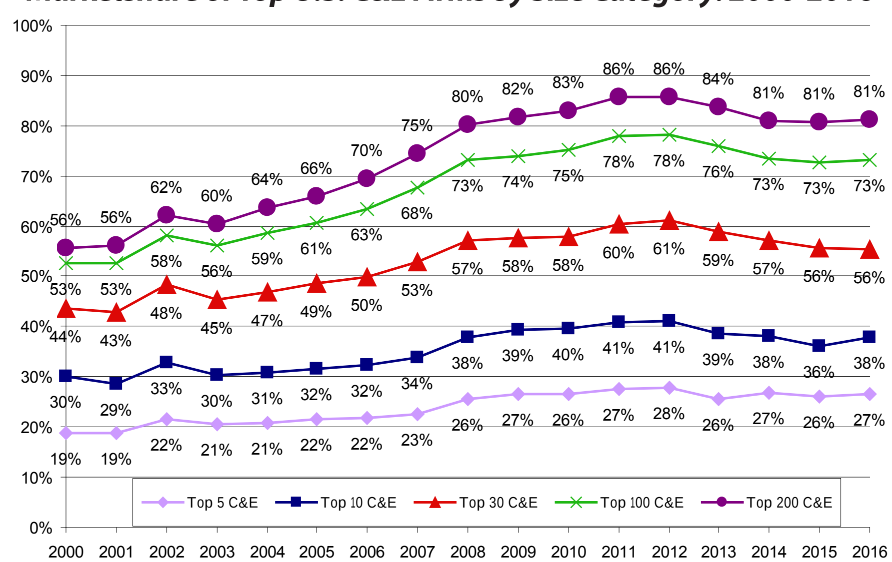
Source: EBJ database of C&E firms;Top 10 are ranked by gross environmental consulting & engineering revenues in 2016.

The U.S. Environmental Consulting & Engineering Industry by Client ($mil and growth)

	2014	2015	2016	2017	2014g	2015g	2016g	2017g
Chemical	1,960	2,100	2,190	2,350	9%	7%	4%	7%
Petroleum	2,140	1,920	1,930	1,980	-1%	-10%	1%	3%
Primary metals	310	320	330	330	3%	3%	3%	0%
Metals	440	450	460	480	5%	2%	2%	4%
Mining	650	670	670	670	-4%	3%	0%	0%
Electronics/Tech	350	360	370	390	6%	3%	3%	5%
Transp Mfg (auto/aero)	720	750	750	790	6%	4%	0%	5%
Pulp & paper	390	400	390	400	3%	3%	-3%	3%
Other Mfgr	980	1,020	1,040	1,080	6%	4%	2%	4%
Water utilities	1,150	1,220	1,280	1,350	7%	6%	5%	5%
Power utilities	1,790	1,920	2,020	2,120	10%	7%	5%	5%
Solid waste util/cos.	540	570	580	610	8%	6%	2%	5%
Gas stations	740	760	760	770	3%	3%	0%	1%
Banks, law, real est.	1,460	1,540	1,600	1,670	7%	5%	4%	4%
Renewable Energy Dev	510	550	590	630	4%	8%	7%	7%
Other	450	470	490	510	7%	4%	4%	4%
Private Total	**14,580**	**15,020**	**15,450**	**16,130**	**5%**	**3%**	**3%**	**4%**
Federal	7,940	8,050	7,880	7,900	-5%	1%	-2%	0%
State	1,540	1,570	1,600	1,650	-3%	2%	2%	3%
Local	4,930	5,050	5,170	5,350	2%	2%	2%	3%
Government Total	**14,410**	**14,670**	**14,650**	**14,900**	**-2%**	**2%**	**0%**	**2%**
C&E Total & Growth	**28,990**	**29,690**	**30,100**	**31,030**	**1.3%**	**2.4%**	**1.4%**	**3.1%**

Source: Environmental Business International, Inc. EBJ's annual C&E market model derived from compiled revenue breakdowns of C&E firms.

Marketshare of Top U.S. C&E Firms by Size Category: 2000-2016



Source: EBJ's annual C&E market models. Top firms in each year portrayed so not always the same firms.

three years, but little has happened at the federal level in either direct funding or to facilitate private or local financing. States and municipalities have passed measures and issued bonds for upgrades or new projects, but the industry and policymakers still hold out hope for some legislation in 2018. Regardless of the outcome, companies remain wise to have clear lines into infrastructure markets in power, water and transportation in particular, and all the potential that technology, automation, AI and other tools have to revolutionize them. C&E firms also have opinions on how technology can impact more traditional natural resource and remediation categories in the environmental industry in data acquisition, monitoring, contaminant measuring and analytics, as well as using AI to replace more human-dependent

Environmental Industry's Next Key Invention

Respondents to EBJ's 2017 Census of Environmental C&E Firms were asked what invention, break-through technology or disruptive service would most impact how the environmental industry does its business. Edited responses below.

Carbon sequestration

Decision analysis tools, done properly so that better decisions are made, and people become more aware of how decisions should be made

Our ability to measure contamination at lower concentrations will change the remediation goals thereby changing past and future remediation projects. We may end up re-evaluating previous cleanups.

Remote sensing

Artificial Intelligence

Energy storage/Data management

Genetically altered microorganisms

Packages that facilitate real time data gathering and reporting for construction management oversight/ observation/inspection

Mandatory disclosures

In-situ PCB remediation

Drinking water management

GIS innovation (drones)

Robotics (AI)

Remote data acquisition

DNA, automated sampling with drones vs. field crews

Remote Sensing using Drone Technology

Combination of technology advancements (AI, virtual reality, optical recognition, autonomous vehicles, smart infrastructure)

Regulatory reform at federal level

Big data analytics and the availability of that data

Automated processes for data collection, reporting, and compliance moving towards use of AI for many functions now performed by people

Remote/robotic data collection & mapping - already well on it's way

Ability to charge in a manner other than by hours

Source: 2017 Census of Environmental C&E firms conducted in November 2017

Ranking of Environmental Markets by Client: 2018-2019

	Strong	Good	Slow	Flat	De-cline	Rank 1/2017	Change in 2017
Renewable energy dev	28%	28%	22%	20%	2%	28	27
Power utilities	19%	29%	33%	19%	0%	11	9
Water utilities	20%	29%	29%	22%	0%	9	6
Property dev: com'l	18%	41%	20%	22%	0%	15	11
Transpo authorities	22%	33%	20%	22%	2%	13	8
Healthcare	13%	40%	18%	30%	0%	6	0
Property dev: residential	23%	21%	21%	35%	0%	16	9
Transpo Mfg (auto/aero)	22%	22%	20%	37%	0%	7	-1
Chemical	16%	23%	19%	42%	0%	3	-6
Banks & Law Firms	13%	36%	23%	28%	0%	10	0
Port authorities	15%	30%	30%	26%	0%	12	1
Oil & Gas Midstream	13%	24%	13%	47%	2%	1	-11
Education	13%	25%	25%	38%	0%	25	12
Solid waste util & cos	11%	29%	33%	24%	2%	23	9
Other manufacturing	15%	17%	35%	29%	4%	19	4
Food & beverage	7%	31%	21%	40%	0%	18	2
Local government	8%	34%	25%	30%	4%	30	13
Electronics/IT/Tech	8%	29%	13%	47%	3%	2	-16
Metals fab/coating	13%	13%	18%	53%	3%	20	1
Mining	5%	17%	31%	48%	0%	21	1
Oil & Gas Downstream	5%	26%	19%	50%	0%	5	-16
Oil & Gas Upstream	5%	15%	23%	58%	0%	4	-18
Consumer products	3%	29%	13%	55%	0%	14	-9
State government	5%	27%	25%	38%	5%	26	2
Primary metals	8%	11%	21%	58%	3%	22	-3
Hospitality	0%	24%	24%	50%	3%	17	-9
Major retailers	3%	20%	23%	48%	8%	27	0
Federal govt: DOD	4%	21%	29%	33%	13%	8	-20
Pulp & paper	5%	9%	19%	58%	9%	29	0
Federal govt: Other	2%	18%	24%	45%	10%	32	2
Federal govt: DOE	5%	14%	19%	49%	14%	31	0
Petroleum retail	8%	3%	18%	59%	13%	24	-8
Federal govt: EPA	0%	10%	19%	42%	29%	33	0

Source: Environmental Business Journal annual EBJ Snapshot Surveys; "prospects for growth in the next two years"

functions. (See list at left).

In this edition of EBJ we combine what often are two issues with our review of the C&E industry and an update on M&A. Sections following this overview focus on company profiles, and then the M&A advisors whose livelihood depends on their knowledge of the landscape for the buyers and sellers that engage them. These experts themselves continue to debate the role of large firms and what consolidation has done to the industry, but there seems to be a consensus about the opportunity for the middle market firms to fill the gap as the top firms become mega-firms.

The list of billion-dollar firms and hundred-million-dollar firms doing acquisitions has always been long (although the latter have more frequently been on the menu than at the table), but not many have been merging in companies 10 to 30 people at a time. **NV5** and **Trinity**

Market Trends by Media: Prospects for Growth in 2018

	Strong	Good	Slow	Flat	Decline
Water	26%	26%	32%	16%	0%
Renewable energy	17%	36%	24%	24%	0%
Environmental information	13%	32%	26%	30%	0%
Air quality	16%	30%	26%	26%	2%
Natural resources	14%	34%	30%	20%	2%
Wastewater	8%	37%	31%	24%	0%
EHS/Industrial hygiene/safety	10%	38%	20%	33%	0%
Remediation	12%	35%	27%	20%	6%
Energy mgmt/efficiency	11%	26%	32%	32%	0%
Sustainability/CSR	7%	28%	26%	35%	5%
Solid waste mgmt	5%	26%	31%	36%	2%
Hazardous waste mgmt.	9%	23%	26%	34%	9%
Climate adaptation/resilience	0%	32%	24%	38%	5%
Climate/carbon: mitigation	0%	27%	24%	35%	14%

Source: 2017 Census of Environmental C&E firms conducted in November 2017

Futurist Predictions in USA

Self-Driving Cars in 2020	12%
Self-Driving Cars in 2030	28%
Self-Driving Cars in 2050	50%
Electric Cars in 2020	17%
Electric Cars in 2030	33%
Electric Cars in 2050	57%
Renewable Energy in 2020	17%
Renewable Energy in 2030	31%
Renewable Energy in 2050	46%
Reclaimed sewage for drinking in 2020	11%
Reclaimed sewage for drinking in 2030	20%
Reclaimed sewage for drinking in 2050	33%

US Infrastructure with Most Change Over the Next 20 Years

Infrastructure	Percentage
Transportation	41%
Water & Wastewater	29%
Electric Power	24%
Communications	6%

Source: 2017 Census of Environmental C&E firms

Consultants were singled out as acquiring companies active in this range. Trinity, with the support of now its third private equity owner, is profiled on page 11. NV5 has "made a splash this year" in M&A, says Neil Churman of 7 **Mile Advisors**, and its "model of consolidating smaller, more specialized firms into a national practice is going to put competitive pressure on smaller firms," as well as signal the market.

Mick Morrissey of **Morrissey Goodale** sees the growing influence of private equity and feels that "deals like the minority recapitalization of **Woolpert** by Long Point Capital and the creation of **Atlas Technical Services** through the acquisition of three firms by **Bernard Capital**" are the big stories of 2017. **EFCG**, which advised Woolpert on its transaction with Long Point, said it "would not be surprised" to see more deals where smaller private companies take minority financial partners to pursue an "aggressive growth strategy".

Not to be left out are billion-dollar firms **Stantec** (whose M&A pace finally slowed in 2017 following the mid-2016 acquisition of **MWH Global), Golder** (back in the game with a UK deal in 2017), and WSP with 8 acquisitions in each of 2016 and 2017, but only four of those in the USA. "I like how a firm like WSP continues to be aggressive and acquiring global leaders in specific country markets like **Opus** in New Zealand, **Poch** in Chile and **Concol** in Colombia," said Steve Gido of Rusk O'Brien Gido + Partners. **TRC** is also poised to be a more serious player following its deal with **New Mountain Capital** to go private, and ambitious plans to join the billion-dollar club. By no means does this mean the rest of the top 30 are standing still in M&A, nor the rest of the $100-million firms, nor even firms with as few as 100 people. Competition for talent has always been fierce at the top of the market, but the battleground for acquisitions may be shifting more towards the middle market. Market maturity does not always mean industry consolidaton as the last five years have taught us. Let's see what the next five years bring. ☐

Distribution of U.S. Environmental Consulting & Engineering Firms in 2016

Envl C&E Revs	Firms	Gross Env'l C&E Revs	Average	Net Env'l C&E Revs	% of Mkt	% of Gross
Big >1 bil	4	8,095	2,024	6,881	23%	24%
Large>100-999 mil	46	13,619	296	11,848	39%	40%
Mid 20-100 mil	139	5,872	42	5,226	17%	17%
S 10-20 mil	150	2,092	14	1,987	7%	6%
S 5-10 mil	180	1,315	7.3	1,263	4%	4%
S 1-5 mil	587	1,715	2.9	1,637	5%	5%
S <1 mil	2,156	1,281	0.6	1,258	4%	4%
Total	**3,262**	**33,988**	**10.4**	**30,100**	**100%**	**100%**

Source: Environmental Business Journal's annual model of the U.S. environmental consulting & engineering industry. Revenues listed are gross revenues for environmental consulting & engineering only (note total gross revenues exceed market size expressed in net revenues). Based on annual surveys of C&E firms by EBJ, company interviews, and compiled revenue data derived from reputable secondary sources.

EBJ January/February 2017 respondent opinion on the stock market: S&P 500

-20% or more	0%
-15 to -20%	0%
-10 to -15%	0%
-5 to -10%	6%
-1 to -5%	4%
Flat or 1% to -1%	4%
1-5% gain	17%
5-10%	44%
10-15%	20%
15-20% ***(Actual 19.7%)***	4%
20%+ gain	1%

Source: Environmental Business Journal 2017 EBJ Snapshot Survey conducted in January-February 2017 with more than 140 respondents.

EBJ January/February 2017 respondent opinion on housing prices 2017-2018

Strong Market: Gains of 10%+	3%
Good Market: Gains of 5-10% ***(Actual: 6.5% from Oct 2016 to Oct 2017)***	21%
Modest Market: Gains of 2-5%	63%
Flat or Stagnant Markets	6%
Modest Decline of 2-5%	6%
Decline of 5-10%	0%
Decline of 10%+	1%

Source: Environmental Business Journal 2017 EBJ Snapshot Survey

EBJ January/February 2017 respondent opinion on crude oil prices 2017-2030

Q1-2 2017	$53
Q3-4 2017 ***(Actual 12/15/17: $65.32)***	$54
Q1-2 2018	$57
Q3-4 2018	$60
2019	$64
2020	$68
2025	$70
2030	$69

Source: Environmental Business Journal 2017 EBJ Snapshot Survey

Source: EBJ, EBI Inc. (San Diego, CA). Figures in EBJ's list of top C&E firms are revenues generated for calendar year 2016 in gross environmental consulting & engineering (C&E) not including construction and remediation construction, but including project management/construction management. Environmental construction (air, waste, water), remediation construction and federal waste management or contracting are counted in the middle column labeled Env'l Cont/HW. In some cases, revenues are approximations derived from executives, analysts and reputable business information sources and published materials. Although EBI has made every reasonable effort to be accurate, figures are not the result of internal or external audits and are not guaranteed to be accurate. Errors and omissions are unintentional.

Top U.S. Environmental C&E Firms in 2016

Company	Gross Rev	Env'l Cont	Env'l C&E
AECOM	17,410	1,202	2,942
CH2M	5,768	1,961	2,134
Tetra Tech Inc.	2,700	847	1,772
Stantec Consulting Inc.	3,040	-	1,246
Arcadis	3,742	10	963
Battelle Memorial Institute	4,787	-	957
ERM	888	-	888
Golder Associates Corp.	957	-	785
Jacobs Engineering Group	10,960	380	770
CDM Smith	1,189	419	484
Ramboll ENVIRON	1,567	-	455
Black & Veatch Corp.	3,192	339	427
HDR Inc.	2,226	597	405
ICF	1,174	-	399
Leidos	7,344	-	367
Brown and Caldwell	362	-	362
Parsons	3,470	278	347
Fluor Corp.	18,811	1,364	329
Bechtel Group Inc.	32,898	2,328	303
GHD	1,231	134	297
AMEC Foster Wheeler	7,031	764	290
TRC Companies Inc.	707	-	290
The Louis Berger Group Inc	861	-	258
Carollo Engineers	248	-	248
GeoSyntec Consultants, Inc.	277	-	244
Hazen and Sawyer	218	-	218
WSP Parsons Brinkerhoff	6,002	322	214
Woodard & Curran	206	-	194
NV5	224	-	190
Cardno Ltd.	870	-	185
WorleyParsons	4,545	-	182
Weston Solutions Inc.	253	-	177
Bureau Veritas	687	-	165
OBG (O'Brien & Gere)	205	-	164
Terracon Consultants, Inc.	581	-	157
Apex Environmental, Inc.	150	-	150
Huntington Ingalls Ind.	7,068	-	150
SCS Engineers	164	16	148
Michael Baker Corp.	650	-	137
EA Engineering Science and Tech.	133	-	133
Kleinfelder Inc.	373		131
Burns & McDonnell	2,570	101	131
SNC-Lavalin Inc.	6,385	-	128
Navarro Research and Engineering	147	-	122
North Wind Inc	154	-	122
Trinity Consultants	117	-	117
Haskell Co.	744	-	112
Langan Eng and Envl Services	245	-	110
Haley & Aldrich Inc	157	-	110
Ecology & Environment Inc.	106	-	106
Kennedy/Jenks Consultants	98	-	98
ATC Group Services	229	65	95
GEI Consultants Inc.	145	-	91
Anchor QEA	91	-	91

MEAD & HUNT ADDS TWO FIRMS IN 2017 WITH ACQUISITIONS OF QLH AND EMR

***Mead & Hunt** is an employee-owned firm with more than 640 engineers, architects, planners, historians, scientists and administrative and technical staff who provide professional consulting services to clients nationwide. Founded in Wisconsin in 1900, the company has expanded beyond its Midwest roots to embrace opportunities in new markets and locations. Today, Mead & Hunt has 30-plus offices in 19 states and their main markets are Aviation, Transportation, Water, Federal, Buildings and Environment, with about 80% public and 20% private clients. Multi-discipline teams work on projects throughout the country and provide solutions to meet a wide range of clients' needs. Mead & Hunt has an annual revenue of $108 million and holds an ENR magazine national ranking of the 141st largest consulting firm.*

Amy Squitieri, Group Leader for Environment & Infrastructure. Amy leads a diverse team of 50+ engineering, environmental, technical, preservation and planning professionals. This team is focused on addressing client needs in municipal infrastructure, environmental services, water-wastewater treatment, construction, renewable energy and cultural resources.

Brad Blais, Market Leader for Water-Wastewater. Brad was President of QLH prior to the firm's merger with Mead & Hunt in July 2017 and now holds a key strategic role as a Vice President of Mead & Hunt.

EBJ: What are Mead & Hunt's strategic targets and goals? How does QLH's acquisition align with Mead & Hunt's strategic plan?

Mead & Hunt: The market diversification Mead & Hunt has in place is the basis for our longevity and stability, and continued diversification is a key part of our strategic plan. Our strategic plan places priority on investments in food and beverage, water-wastewater, construction and environmental markets. Geographic areas we are focusing on include the Southeast and Southwest.

QLH aligned with a priority market and geography. In addition, they share a top Mead & Hunt value of client-service focus.

EBJ: What were the main objectives for the acquisition?

Mead & Hunt: Our objectives in merging with the QLH team were to access the Florida market and expand capabilities and talent in advanced wastewater treatment and reclaimed water.

EBJ: QLH's acquisition brings additional expertise in water resources consulting. What unique technologies is the subsidiary bringing to Mead & Hunt?

Mead & Hunt: QLH specializes in advanced wastewater treatment (AWT) processes and public access reclaimed water production and distribution. Some unique AWT technologies include: moving bed bioreactor (MBBR) and membrane bioreactor facilities that incorporate pre- and post-anoxic selectors for nitrogen and phosphorous reduction. These processes significantly reduce effluent nitrogen concentrations within a very small footprint, enhancing treatment in existing facilities. MBBR facilities can provide significant cost savings and reduced power consumption. QLH, now Mead & Hunt, leads the industry in projects using this technology.

Public access reclaimed water production and effluent augmentation using alternative water supply has become a necessity in communities with limited water availability. Use of the lowest quality water source suitable for the intended purpose is a best management practice (BMP) for water conservation and effluent management. Harvesting and treatment of stormwater and surface water is the most sustainable augmentation source that coincides with using the lowest quality water source for irrigation and other non-potable needs. Our team has implemented numerous surface water augmentation and treatment projects in east-central Florida.

EBJ: Please provide some information about the most significant water resources projects that you are currently involved with.

Mead & Hunt: The Port Orange office assisted the West Volusia Water Suppliers (WVWS) in developing their compliance strategy with the Blue Spring Basin. The local water management district established a minimum flow regime for one of the state's largest springs. The WVWS members include the utility providers in west Volusia County serving about 200,000 customers. The compliance strategy includes an array of alternative water supply projects, aquifer recharge initiatives and development of new groundwater supplies outside of the basin watershed. The combination of projects will reduce net aquifer withdrawals and restore natural spring flow.

QLH and Mead & Hunt Merge

In July 2017, water resources consulting firm **QLH** (Port Orange, Fla.) joined the employee-owned architectural-engineering consulting firm **Mead & Hunt** (Madison, Wis). QLH's roots go back to the municipal engineering sector of the 1960s, and the firm continues to have a strong public agency client base throughout central Florida. According to Mead & Hunt, which has more than 30 offices nationwide, QLH was a pioneer in wastewater treatment and reclaimed water technology and currently provides public facility and utility design, contract administration, construction inspection, and funding and grant services. QLH has 32 employees with civil and environmental engineering and construction inspection backgrounds. "We have been seeking a design firm to expand our water-wastewater services for several years, and also working to expand our footprint in the southeastern U.S.," said Raj Sheth, CEO of Mead & Hunt. "This region, particularly Florida, is experiencing a population boom. That, coupled with aging infrastructure across the U.S. and financing being directed to improve these systems, makes this merger a key opportunity."

Mead & Hunt engineers are assisting the utilities in developing and implementing the compliance strategy, currently in the fifth year of implementation. Ultimately, the suite of projects will enhance spring flow by approximately 20 cubic feet per second (cfs) by 2024. The total project has an estimated cost of $150 million.

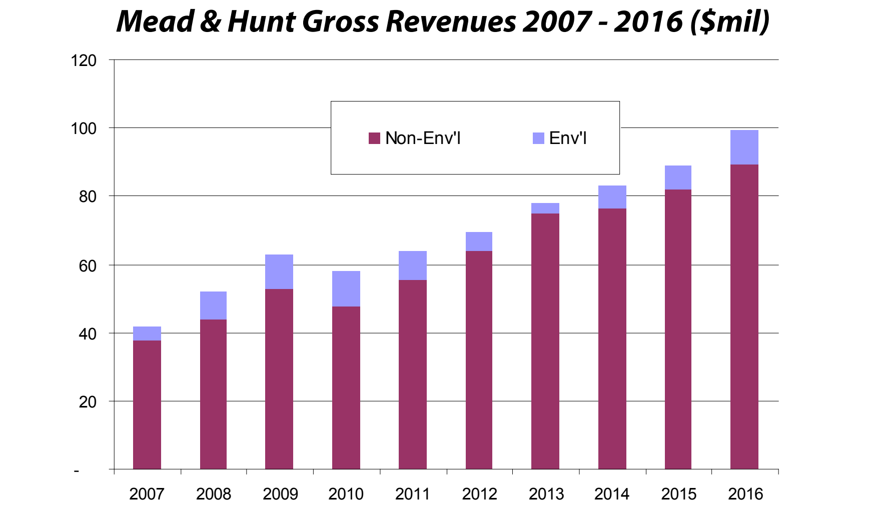
EBJ: What type of opportunities do you see in water resources consulting? What major trends have you noticed in the past couple of years and what changes are you expecting in the near future?

Mead & Hunt: Regulation and management strategies for point and non-point source discharges will continue to evolve and require increased monitoring and higher treatment levels. Total maximum daily loads and pollutant reduction goals, established by federal and state agencies, will drive this change. It will require utilities and MS4 permittees (public entities seeking storm sewer discharge) to develop basin management action plans to achieve the goals. As water resource professionals, we will need to help our clients understand the effect of new regulations. We will help develop sustainable strategies to comply with the more stringent water quality measures as development and pollutant loads increase. This will present new challenges and opportunities.

BMPs that reduce potable demand, reclaim treated effluent and beneficially use stormwater are now widely accepted. Existing infrastructure components will age and replacement projects will provide opportunities to implement BMPs that support the above approach for better water resource management. This is a trend that will continue and one that should be supported by industry professionals.

EBJ: What water resources capabilities did Mead & Hunt have prior to the acquisition and how is the acquisition complementing already provided services?

Mead & Hunt: Our water resources capabilities are in three categories: stormwater, flood protection and water-wastewater. We provide design and consulting services for:



Source: Environmental Business International, Inc. EBJ database of environmental C&E firms.

- Water and sewage treatment
- Water and reclaimed water storage, distribution and pumping
- Sewage collection and transmission
- Stormwater management and treatment
- Utility relocation and electrical undergrounding
- Green infrastructure and streetscape design
- Docks, seawalls and dredging
- Stormwater and utility master plans and rate studies
- Full contract operations for municipal and industrial clients, or start-up services
- Industrial and mining pilot system design-build-operate
- Dam inspection, design or removal, and levee certification
- Flood control structure design
- Emergency action planning and security assessments

We a have a strong legacy practice in dams and hydro dating back to Mead & Hunt's founding in 1900 by hydrologist Daniel W. Mead. In this area, we provide:

- Civil and structural design and modification of hydro facilities
- Hydrology and hydraulic modeling
- Hydro-mechanical and hydro-electrical design
- Hydro project economic analysis, licensing and compliance support

The addition of QLH strengthens our water, wastewater and stormwater capabilities. It also helps us to better support existing food and beverage, and federal privatization clients with their water treatment needs.

EBJ: Why did you decide to acquire a company that operates in Florida? What opportunities did you see in that area?

Mead & Hunt: Florida is a strong market in water, transportation and aviation. These are three significant markets for Mead & Hunt nationwide but we did not yet have a presence in the southeast. Our 30-person office in Port Orange (Daytona area) provides a base to expand our water resources consulting to other parts of Florida. In addition, it will expand our geographic reach to better serve transportation, federal and aviation clients.

The Port Orange team currently works with about 25 municipalities. In the future we hope to address their broader needs by offering structural and electrical design, roadway and bridge design, and construction management. We plan to expand our presence through key hires and/or another acquisition.

This acquisition further diversifies the Mead & Hunt portfolio, allowing the firm to capture greater market share in existing areas of expertise. This growth is supported by embracing innovation, investing in employees, maintaining safety as a top priority and giving back to the communities they serve.

EBJ: How long was the acquisition process from first talking about it to a signed deal?

Mead & Hunt: It was about one year from our first meeting to the closing. This is longer than typical for Mead & Hunt. However, it worked out well in this case by allowing additional time to establish a comfort level among owners of QLH regarding their roles and compensation, and future opportunities for employees. It also allowed them to better communicate the change to existing clients, assuring them of the benefits of the change.

EBJ: What were the owners of QLH looking for? Were they seeking an ownership transition or did you initiate the process?

Mead & Hunt: We sought out QLH. QLH was not actively looking for a transition. Its owners were seeking to accelerate growth and found Mead & Hunt to be an attractive partner to support their strategic goals and free them from administrative issues.

QLH was open to the change, if the corporate culture reflected theirs. It is important to provide employees with satisfying work and opportunities to excel.

Mead & Hunt looks for firms that want to invest in their employees and have strong entrepreneurial values. This was aligned with QLH's business model.

EBJ: Do you organize and manage Mead & Hunt more by client area or by technical discipline?

Mead & Hunt: We are client-focused. This means our business units are defined by how clients need services. For example, municipal clients, such as the City of DeLand, want a local provider who is readily available to attend public meetings, view onsite issues at the waste treatment plant, and be connected within the community. Within this model our Port Orange team is perfectly aligned with the client. But if a unique issue should arise, there is a full cadre of Mead & Hunt specialists in offices across the country who can be put on a job as they are needed. It is a cost-efficient and expedient system for providing what our clients need.

Another example would be a food processing company. In this case, these privately held corporations are less concerned about the local availability than having unique capabilities and fast service within a single team dedicated to them. This business unit uses our advanced cloud-based system to communicate, share and problem solve from locations across the country.

EBJ: Is doing acquisitions now part a key part of your growth strategy?

Mead & Hunt: Yes, Mead & Hunt's strategic plan includes more acquisitions as well as internal and organic growth through key hires and expanded opportunities for employees.

Mead & Hunt's business philosophy is to grow profitably while maintaining our focus on excellent service and preserving our culture. We diversify our business by expanding services offered in existing offices and starting new initiatives. The company's success hinges on the principle that clients hire people. We look for firms who have strong relationships with valued clients.

Mead & Hunt has accomplished consistent growth through both organic growth and acquisitions, and a strong people-focused culture. We are considered one of the best places to work as well as one of the fastest growing companies in our industry for the last 15 years.

EBJ: How many other acquisitions have you done in recent years and what type/size have they been?

Mead & Hunt: Our most recent acquisitions by date, name, primary market and employees:

• 2017 **EMR** (Food & Beverage, 30 employees)

• 2017 **QLH** (Water-Wastewater, 30 employees)

• 2014 **H20 in Motion** (Water-Wastewater, 11 employees)

• 2012 **Barnard Dunkleberg** (Aviation, 15 employees)

• 2011 **RPM** (Transportation, 88 employees)

EBJ: How do you usually manage risk throughout the acquisition process? How were you able to minimize it during the acquisition of QLH?

Mead & Hunt: In addition to typical due diligence steps of financial, contract, project management and insurance reviews, we manage risk by engaging with owners and employees to understand and meet their needs, and ensuring that we retain clients during this, and any, acquisition.

EBJ: What type of environmental consulting and engineering services does Mead and Hunt provide for the Food & Beverage industry? Why have you focused in this industry?

Mead & Hunt: We offer the full suite of AEC and design-build capabilities to meet the varied needs of clients in the Food & Beverage industry. Specific to their environmental and engineering needs, our clients often face challenges with control of Total Suspended Solids (TSS) and Biochemical Oxygen Demand (BOD) in wastewater, and odors and disposal related to air and waste respectively. When clients have treatment needs that

Mead & Hunt Recent Acquisitions

Year	Company Acquired	Company's Primary Market	Number of Employees
2017	EMR	Food & Beverage	30
2017	QLH	Water-Wastewater	30
2014	H20 in Motion	Water-Wastewater	11
2012	Barnard Dunkleberg	Aviation	15
2011	RPM	Transportation	88

cannot be met by a local municipality, we can design, build and operate a treatment system ranging from simple pretreatment and pH control to complete systems. Air environmental work is another area where we assist, due to clients' need to respond to regulatory requirements and community concerns.

EBJ: What percentage of your company's total revenues are from environmental consulting and engineering activities? How do you think that these will change in the next couple of years?

Mead & Hunt: Approximately 15 percent of Mead & Hunt net revenue; this includes water-wastewater, water resources, environmental, and cultural resources. Our 2018 business plan forecasts revenue increases of 7-15 percent depending on area. We are also seeking to make additional investments in key hires and/or acquisitions to accelerate this forecasted organic growth. ◻

Mead & Hunt Acquires EMR

In December 2017 **Mead & Hunt**, announced the acquisition of **EMR**, a leading engineering and construction management firm in the food sector.

EMR delivers custom-designed refrigeration, HVAC and heat transfer systems to manufacturers in the food and beverage industry. The 30-person firm is in Fenton, Missouri, just outside St. Louis. Recognized nationally for quality services, their nationally recognized clients are involved in all aspects of food processing. EMR's engineers and construction managers guide clients through all project phases from feasibility studies to project closeout and operational commissioning.

Food & beverage industry capital spending has been rising as changing demographics are driving manufacturers to develop new products at an increasing rate along with the need to prepare for the Food Safety Modernization Act regulations and Global Food Safety Initiative certification.

TRINITY KEEPS UP 10%+ GROWTH RATE; COMPLETES 14 DEALS IN THE LAST 5 YEARS

*Founded in 1974, **Trinity Consultants** is an environmental, health, and safety (EHS) consulting firm with over 50 offices across the U.S. and in Canada, the U.K., the Middle East, and China. Trinity is an employee owned, private equity backed, consultancy, focused on assisting private sector companies with EHS strategy, permitting and compliance. Trinity also addresses broader performance and risk management issues such as quality assurance, auditing and verification, sustainability, and management systems. Trinity is in the top quartile of EHS consulting firms in both revenue growth and profitability. Over the last five years, Trinity has grown organically at +10% CAGR and has completed 14 acquisitions. In November 2011 **Gryphon Investors** bought a controlling interest in the firm from **Sentinel Capital Partners**, the majority owner since 2007. In August 2015, **Levine Leichtman Capital Partners** purchased Gryphon's controlling interest and Trinity management and employees maintain a significant equity ownership in the company. Paul Greywall serves as Director of Corporate Strategy for Trinity Consultants. He has been with Trinity for over 24 years, and has served in various operational and management positions. Paul directs Trinity's corporate growth initiatives, including the sourcing, execution, and integration of acquisitions. Over the past decade, Paul has orchestrated the acquisition of 14 firms, extending the geographic reach and broadening the EHS capabilities of Trinity. Paul also works directly with clients, coordinating resources across Trinity's offices and service areas and managing complex air and water permitting projects, environmental compliance audits, and risk analyses. He also oversees various operational aspects of the organization including SafeBridge Consultants, a business focused on toxicology and industrial hygiene. Paul founded Trinity's North Carolina operations, serving as President of Trinity Consultants of North Carolina, PC, from 1999 through 2015.*

EBJ: What are Trinity's strategic targets and goals? How does the July 2017 acquisition of Argent Consulting Services align with Trinity's strategic plan?

Greywall: Trinity vision is to be the premier global provider of intelligent EHS business solutions. We focus on niche services within the broader EHS market which are mission critical to our clients' business needs. ACS brings expertise in Process Safety Management (PSM), Environmental Management Information Systems (EMIS), and Air Quality Consulting. All three of these services are growth areas within Trinity and align with our vision.

EBJ: What were the main objectives for the acquisition?

Greywall: The objectives for the ACS acquisition touch on several elements of our growth strategy. ACS increases our penetration in the Houston market, further strengthens several key service areas, and brings additional technical and managerial talent into our organization.

EBJ: ACS's acquisition brings additional expertise in air quality. What unique technologies is the subsidiary bringing to Trinity?

Greywall: ACS has a long track record of providing customized Environmental Management Information System (EMIS) solutions to their customers. ACS' EMIS experience will expand our capabilities and the solutions we can offer to our client base.

EBJ: Please provide some information about the air quality projects that you have conducted within the past 2 years.

Greywall: Trinity has completed 10,000 air quality consulting projects over the last two years. Our air quality consulting services range from compliance driven reporting projects to large permitting projects for greenfield facilities.

EBJ: What type of opportunities do you see in air quality? What major trends have you noticed in the past couple of years and what changes are you expecting in the near future?

Greywall: Air quality permitting and compliance continues to be a challenging element of our clients' overall business strategy. When deciding where to build new facilities and which facilities to expand, air quality is a critical part of the decision making process. We don't see that changing in the near future. We expect that there will be a continual ebb and flow between compliance and permitting needs based on the promulgation of new regulations and the pace of industrial growth.

EBJ: How is the industry adapting to new regulations? What are these regulations?

Greywall: In the US, industry has been adapting to new regulations since the 1970 Clean Air Act (and in some states, even prior to 1970). Our clients rely on a combination of internal staff and external resources (e.g., consultants and service providers) to advocate on their behalf, interpret new and proposed regulations, and comply with the evolving patchwork of federal, state, and local air quality requirements. The mix of air quality requirements impact both new and existing facilities and are comprised of emission limits, monitoring, recordkeeping, and reporting requirements.

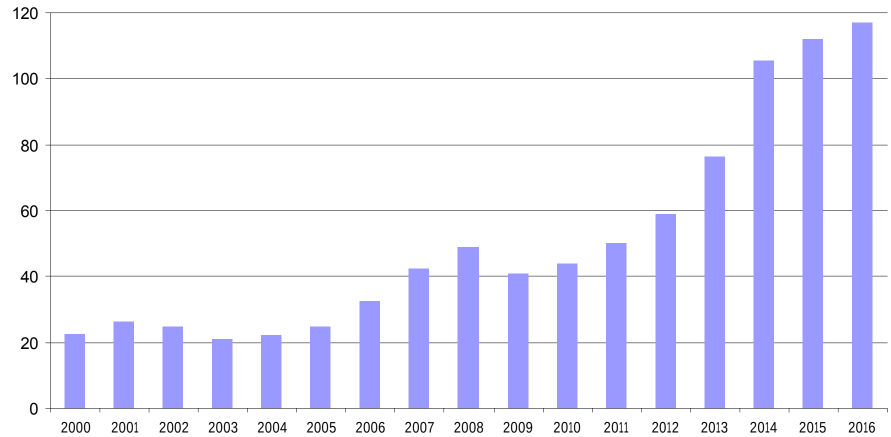
EBJ: How do air quality regulations vary in different areas of the country?

Greywall: Air quality regulations differ across the country based on the specific air quality challenges of each airshed (or air quality control region). Federal regulations provide the construct for each state and local agency to implement a plan (commonly referred to as "state implementation plans" or SIPs) based on their mix of industry, mobile sources, geography, and meteorology. The ultimate goal is to ensure that all areas of the country meet health-based air quality standards and that industrial growth occurs in a manner consistent with protecting air quality.

EBJ: Do you operate internationally? How are air quality regulations in those countries?

Greywall: Trinity operates internationally. Air quality regulations abroad are also focused on meeting health-based air quality standards through a combination of control technologies, emission limits, monitoring, recordkeeping, and reporting.

Trinity Consultants Gross Revenues 2000 - 2016 ($mil)



Source: Environmental Business International, Inc. EBJ database of environmental C&E firms.

Most countries approach to regulating air emissions is similar to that in the US.

EBJ: What other services does Trinity provide?

Greywall: In addition to air quality consulting, Trinity provides the following niche EHS consulting services: toxicology, industrial hygiene, aquatic sciences, water permitting, EMIS selection and implementation, modeling software, auditing, training, and staffing.

EBJ: Why did you decide to acquire a company that operates in Texas? What opportunities did you see in that area?

Greywall: Texas is one of Trinity's largest domestic markets for air quality consulting. Founded in Dallas, we have approximately 20% of our staff spread across four offices within the state. Houston is the epicenter for refining and chemicals; ACS increases our touch points across those industries.

EBJ: How long was the acquisition process from first talking about it to a signed deal?

Greywall: Trinity first broached the subject of an acquisition with ACS in the late 90s. Initially, the timing was not right for ACS. However, when we revisited the subject in 2016, ACS was at a different point in their growth strategy and ownership model. We entered into a letter of intent in May 2017 and closed the transaction in July 2017.

Trinity Acquires Argent Consulting

In July 2017, **Trinity Consultants** announced the acquisition of **Argent Consulting Services** (ACS, Houston). ACS focuses on air quality, process safety management, and EHS information management. Founders Greg Haunschild and Adam Jackson both will remain with the firm. "ACS has been a respected competitor locally for many years, so we are pleased to be joining forces with them to serve Gulf Coast area clients," said Shishir Mohan, Trinity's Gulf Region managing director.

EBJ: What were the owners of ACS looking for? Were they seeking an ownership transition or did you initiate the process?

Greywall: Trinity initiated the process of acquiring ACS. ACS' owners were able to accomplish several key objectives in the transaction including liquidity of equity, stock ownership in Trinity, and additional resources to help maintain their growth trajectory.

EBJ: How key are acquisitions to your growth strategy?

Greywall: Acquisitions have been a significant part of our growth strategy for the last five years. Following our acquisition of Albuquerque-based **ESI** in 2008, Trinity realized that many of the same principles which apply to organic growth apply to identifying and integrating acquisitions. Furthermore, successful companies that have a narrow focus on complex EHS consulting services tend to have business models and cultures that are similar to ours.

EBJ: How many other acquisitions have you done in recent years?

Greywall: Since 2012 we have completed 14 acquisitions. The size of acquired companies ranged from five to 30 professionals, increased our breadth of service offerings, and expanded our geographic presence across the US and Canada, and into the UK.

EBJ: How do you usually manage risk throughout the acquisition process?

Greywall: Trinity invests a lot of time and resources getting to know potential acquisitions well in advance of a transaction. Most of our acquisitions are companies that we have interacted with for years. We believe that increased familiarity and knowledge are the most important levers in reducing risk.□

Trinity Consultants Considers European Acquisition

In a November 2017 interview with UK-based market research firm Environment Analyst, Trinity Consultants revealed a desire to buy an environmental or related consultancy in Europe. Private-equity-owned Trinity is actively seeking acquisition candidates that offer consulting services in environmental, health, and safety and which have a high level of technical expertise and a strong value proposition to clients. Speaking with Environment Analyst during a recent trip to London, Trinity's director of international operations Arun Kanchan spoke about the company's desire to pursue an acquisition in the UK's £1.6bn environmental consultancy market.

Trinity's desire to expand internationally is partially tied to changes in its ownership structure. Despite the negativity surrounding Brexit, the UK remains an attractive market for many international firms. US-based firm **Louis Berger** established a presence after the vote to leave the EU while European-based consultants **Sweco** and **COWI** are both still committed to UK expansion options. But rather than start from scratch, Trinity is looking to buy a "strong local firm".

Trinity is not seeking a turnaround situation but rather a solid performer with a track record of success — a company it can help to build up and take to the next level. Ideally, the acquisition will compliment Trinity's existing business lines and areas of expertise. This could be an environmental consultancy, an environmental software specialist to fit with its modeling software (BREEZE) or data systems business (T3), or an environmental testing firm to slot in with its ambient monitoring business (MSI) or its industrial hygiene and toxicology business (SafeBridge). EHS training is also a significant part of Trinity's existing portfolio; so an organisation which would complement this area would be very attractive to the firm's owners and management.

Selected Recent M&As by Trinity Consultants

Year	Description
2017	Acquired **Argent Consulting Services** (ACS), consulting firm with a focus on air quality, process safety management (PSM), and EHS information management.
2017	Acquired **TGB Partnership**, aconsulting and software firm that specialized in the control of air emissions, the development of standards and regulations, data analysis, and the design of aluminum structures.
2017	Strategic relationship with **MMEX Resources Corporation** (MMEX), a development stage company formed to engage in the exploration, extraction, refining and distribution of oil, gas, petroleum products and electric power.
2016	Acquired **Jim Clary & Associates** (JCA), air quality permitting and compliance consulting firm with a focus in the power sector.
2016	Merged with **Thompson Environmental Consulting** (TEC), with specialty in supporting industrial companies in obtaining environmental permits and maintaining compliance.
2015	Acquired **Minnow Environmental**, Canadian environmental consulting firm specializing in aquatic biology.
2015	Acquired **Smith Aldridge Inc**., environmental consulting company with air quality focus and notable strength in the food processing and minerals industries.
2014	Acquired **Schreiber Yonley & Associates** (SYA), environmental consulting company well known for its service to the cement industry and other industrial sectors in the Midwest and beyond.
2014	Merged with **Sierra Research**, a California based air quality and pollution control research and engineering firm serving public and private sector clients with a wide range of vehicle, fuel and air quality planning support.
2014	Merged with **Insight Environmental Consultants**, an environmental consulting company in air quality permitting and compliance, California AB-32 GHG verification, water and waste issues, land use planning, and CEQA compliance.

VHB's COLLABORATIVE MANAGEMENT STYLE AND GENERATIONAL APPROACH LEADS TO SUSTAINABLE GROWTH AND RETENTION

*Q&A with Michael Carragher, President and CEO of **VHB** a 1,350-person firm based in Boston, Mass. Since joining VHB 18 years ago, Carragher built the firm's transit and rail practice, led the company's transportation practice, helped establish the Tysons office in Virginia, and led VHB's emergence in Florida. In his 30-year career he has worked on some of the most complex transit and rail systems in Boston, Philadelphia, New York, Washington, DC, Orlando, and the nation's only high speed rail system, Acela Express. Professional associations include the Design-Build Institute of America, American Public Transportation Association, the American Society of Civil Engineers, and the American Council of Engineering Companies. This Q&A first appeared in The Zweig Letter, a weekly management publication for the AE industry and is adapted and reprinted in EBJ with permission. Zweig Group awards for VHB include one of the best firms to work for as well as Best Firm Civil #23 and Hot Firm #46 for 2017.*

TZL: Describe your 'generational firm' philosophyand when faced with hardship, how does VHB react?

Carragher: VHB is a generational company which means that we act as company stewards. It's our responsibility to leave the company in better condition than we found it. The second important tenant of being a generational company is to keep balance between delivering outstanding performance for our clients and a focus on the needs of our own people. When faced with challenges, tough decisions — even failures — the generational company philosophy guides us as we think about the right thing to do for the company, our people and clients.

If you're thoughtful in how you plan and what you do, then you should be prepared to react to an unanticipated occurrence. Our leadership team takes the time to think things through, thoughtfully communicate and work through potential outcomes. I think this encourages, by example, all of our employees to do the same, which helps when things don't go as planned. And, when there is a challenge or problem, we face it head on. We listen and understand all the issues – often in formal debriefs – and then prepare the repair plan or the approach to making the outcome more successful next time.

TZL: VHB ranks high in 'best places to work. How do you go about team building and what do today's CEOs need to know about today's workforce?

Carragher: I think it goes beyond perks like monthly happy hours or casual Fridays. Employees want to be engaged and be connected – they're invested in making a difference and in succeeding. Communicating with employees openly and honestly and being approachable is incredibly important. Employees want to know where the company is headed and how they fit into the big picture. They want to know what the company is doing to make a difference in our communities and they want to help VHB do even more.

VHB's strategic plans are developed through a collaborative process, seeking guidance and input from all corners of the company – different offices, regions, markets, services and across all generations. From there, we make it a priority to engage employees in the process and then communicate our vision and strategic plan so that everyone understands and embraces it, and can contribute to moving us forward with enthusiasm.

Listening, of course, is incredibly important. I travel throughout VHB often so I get the chance to talk with employees from all offices. Last year, I began conducting "Week in the Region" visits, where I spend a week immersed in each of our five regions. My time is spent with regional managers and office managing directors, meeting with our team members and clients, visiting project sites, or helping to strategize on important initiatives and pursuits. During these visits, I learn so much about our people, their interests, challenges, concerns and passions. I hold Town Meetings in each of our 24 offices. Last year, our discussions were focused on our core values and maintaining our culture as we grow. This year, we are focusing on "OneVHB," and our approach to building our understanding of how we can collectively think, act and collaborate better and more aligned across the company.

Providing opportunities for employees to openly share interests and ideas has led to some of VHB's most successful programs and initiatives such as Green Team, Emerging Professionals and VHBCares. It's also yielded increased engagement. Our employees drive our noteworthy charitable efforts, including a companywide online auction, VBay, which raised $27,000 this year, and our Annual Jimmy Fund Golf Tournament which has raised nearly $1.2M over the past 26 years. People want to participate in and lead these activities, build relationships with one another, have fun and make a difference.

TZL: The talent war in the AE industry is here. What steps do you take to create the leadership pipeline needed to retain your top people and not lose them to other firms?

Carragher: VHB focuses on creating an environment that is attractive to multiple generations; we have exciting and challenging projects to work on and a highly supportive culture. One of the hallmarks of being a generational company is to make sure our employees can fulfill their full potential. Ownership transition is an important part of that. We have an ongoing program that identifies and rewards new generations of outstanding professional owners, allowing us to continue to thrive. This is part of our unique culture and one of the things our employees value about VHB – that we're constantly encouraging our professionals to continue to grow their careers and the careers of others. We have created robust learning opportunities for our employees at different stages, beginning with onboarding, to foster leadership development.

Opportunities for employee learning and continuous improvement at all levels is a priority. We provide active investment in professional development outside VHB as well as inside the company through our Center for Education (accredited by IACET); robust on-the-job learning that is embedded in how we work; and knowledge sharing through our Spotlight Series, project lunch-and-learns, work sharing, a technical resource website highlighting online PD programs, project reviews and quality reviews.

We offer VHB Leads: Maximizing Your Leadership Impact and Influence – a two-day workshop designed for VHB leaders to build personal effectiveness and continue to enhance VHB's status as a Generational Company and an employer of choice. It focuses on linking VHB's business goals with individual leadership priorities.

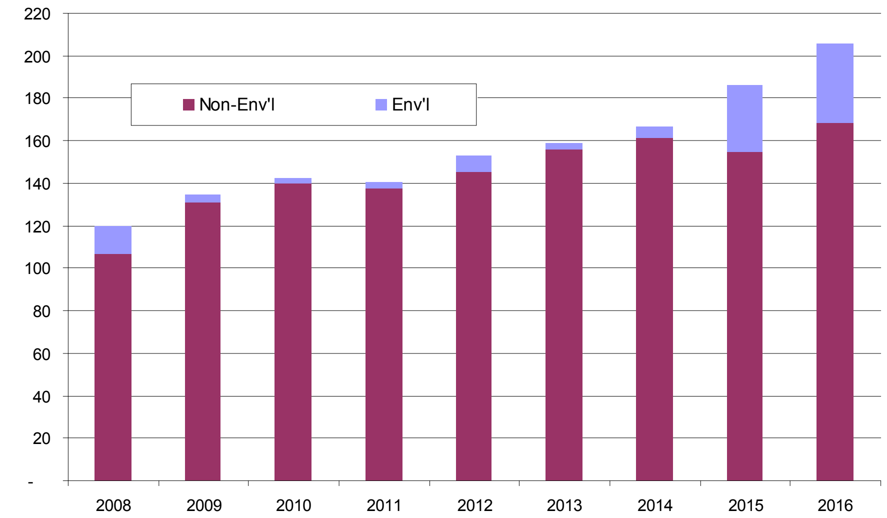
Perhaps most importantly, we engage our employees in our strategic planning process and keep them well-informed about how we are doing and where we are headed. By participating in our business and strategic planning processes employees are better informed and invested in their work.

TZL: The AE market is great right now. What are you doing to cushion your firm in the event of a downturn?

Carragher: Listening and learning are the critical components here. We're listening to our clients and understanding their challenges and concerns; listening to economists; and staying ahead of market trends. We're always looking on the horizon. In the past, we've adapted to downturns by balancing our mix of public and private work and short- and longer-term projects. We continue to strive for this balance, and our work is focused across six primary markets: transportation agencies, real estate, institutions, energy, federal government, and local government. I also believe that you need to remain focused on practical investments and fight the urge to take advantage of good times by investing in riskier ventures – stay focused on the things that are right to do – in up and down economies.

TZL: How do you deal with underperforming employees? What are your steps for removal after they have proven to be ineffective, or even counterproductive?

VHB Gross Revenues 2008 - 2016 ($mil)



Source: Environmental Business International, Inc. EBJ database of environmental C&E firms.

Carragher: We don't start with 'steps for removal.' Supervisors work to discuss how an employee is meeting expectations, and we are clear about areas for improvement. There is much opportunity to work with employees to help them be successful. We try to be clear on performance expectations and goals. We encourage candid, frequent feedback so there are no surprises and we outline a clear process to turn things around when expectations are not being met. Next steps and outcomes are outlined and we follow through.

Yes, there are times it's not a fit and we work closely and professionally with HR to make the best decision for the employee, VHB and our clients.

TZL: Firms that have principals and firm owners that lower their compensation and invest back into the firm perform better, grow quicker, and have higher valuations. How do you balance owner compensation with investment in the firm?

Carragher: We work hard to compensate our employees appropriately for their expertise, level of responsibility and contributions to our future through salary, benefits and incentive compensation. Separately, we seek to create long-term wealth building opportunity by managing a successful business venture. An employee's role in the day-to-day operation of the company determines their compensation. An owner (approximately 25% of our employees) is someone who has demonstrated consistent strong performance and consistency with our core values and has been vetted and recommended for ownership by senior management and approved by the Board of Directors. Our employee owners also have the opportunity to acquire additional stock on an annual basis based upon their contributions driving the company forward and exhibiting positive behaviors consistent with our core values.

In summary, our compensation program is focused on annual performance and market conditions; it thereby results in having the financial opportunity to invest in VHB's future. The ability to accumulate long-term wealth results from ensuring the company's consistent balanced short and long-term performance.

TZL: How does marketing contribute to your success rate? Are you content with your marketing efforts, or do you think you should increase/decrease marketing?

Carragher: Individuals within marketing and communications are too often our unsung heroes. Their partnership with our engineers, scientists, planners and designers helps to effectively tell VHB's stories and convey our value to our clients in a way that positions us to secure increasing opportunities to help our clients succeed and VHB to grow. Their unique skills and insights, along with their dedication to advancing our organization, is highly valued.

It's an exciting time to be part of VHB. We're experiencing unprecedented growth across regions, markets and services. Through this growth, we're adding offices, reaching new clients and enhancing our skills. We are in the enviable position of strengthening our team by welcoming hundreds of new VHBers each year. To maintain our culture and deliver the high quality on which we have built our brand, we'll continue to invest in marketing as well as communications to make sure our organization meets the new demands and is scalable as we grow. We are currently focused on a broader approach to our marketing processes and training to engage technical professionals as well as increase the strategic value and influence of our marketing, design and communications professionals.

TZL: If there was one program, course, or degree program that you could take or recommend before becoming a principal or owner, what would it be?

Carragher: At VHB, it would be our LEADs program. It's a two-day workshop designed for VHB leaders to build personal effectiveness and continue to enhance VHB's status as a generational company and an employer of choice.

The program helps VHB leaders to increase their leadership impact through:

- Reinforcing the criticality of leadership to VHB's future, and to individual career success.
- Helping individuals to review their competency-based 360° feedback in a frank and authentic way, and plan for behavioral changes necessary to reinforce strengths and develop/change areas of challenge.
- Learning about motivational preferences as a way to build more productive relationships.
- Understanding how to manage ego (self and others) for more successful interactions.
- Recognizing communication styles and how they change in different circumstances.
- Addressing contemporary leadership challenges (e.g., managing the younger generation of workers, managing in tough economic times, succeeding in a matrixed organization, succession planning) of their own identification through best-practice sharing with peers.
- Creating a personal action plan that includes accountability around change and a plan for each individual's leadership legacy for VHB.

In addition, two of VHB's co-founders, Rich Hangen and Bob Brustlin, have talked candidly with some of our LEAD alumni about their decision to create our generational company culture. Their perspective is invaluable; we created a video of Rich's last workshop overview so that VHBers can continue to benefit from his insight.

TZL: What's the greatest challenge presented by growth?

Carragher: There are many. For VHB it's about maintaining balance as we grow – balancing business performance with consistency and strength of our core values and culture. We have no desire to just be bigger than someone else; our desire is to create a successful, healthy, growing VHB that stays true to our core values and culture, and in the end, is a company in better condition than when each of us joined. If we do this, we'll succeed as good stewards.

TZL: What is the role of entrepreneurship in your firm?

Carragher: Entrepreneurship is what brought me to VHB! I had never encountered such an embrace of entrepreneurship before. Entrepreneurship is encouraged and intelligently challenged to help you really think through a strong strategy and business plan. And then, VHB provides tremendous support to help you succeed.

I came to VHB to start a transit and rail practice nearly two decades ago. It's grown and evolved to become an integral practice at VHB. More recently, we honed our focus on applied technologies and hired a leader to create a vision and build a team and a client facing practice that has resulted in significant successes for VHB.

Bottom line, when it's the right move, and it will benefit employees and enable us to serve our clients better, we go all in to provide the support needed to make it happen.

In additional to the technical aspect and finding ways to better serve clients, we also support our employees' entrepreneurial spirt, passion and drive that makes local young professional groups, volunteer efforts, and wellness programs – and more – successful. Our employees really drive these efforts and these programs are a tremendously important part of our culture.

TZL: What's your prediction for 2017 and for the next five years?

Carragher: I'm an engineer at heart, not a soothsayer. Any outcome will be different than what I predict! Change is inevitable and exciting and our mission is to adapt and evolve to overcome new and unexpected challenges our clients will face that come along with increasing urbanization. As we continue to grow, VHB will stay true to who we are. Bring it on! □

VHB Acquires McGee Partners in Georgia

On May 22, 2017, **VHB** acquired **McGee Partners**, an Atlanta-based transportation engineering firm. As part of the acquisition, founding partners of McGee Partners, Tommy Crochet, PE, PTOE, and Jill Hodges, PE, will join VHB as Principals.

VHB expanded its Atlanta team in 2015, adding environmental services with the acquisition of **GT Hill Planners**. VHB's Georgia clients include GDOT, MARTA, the Atlanta Regional Commission, and local governments. Representative VHB projects in Georgia include: the City of Atlanta Comprehensive Transportation Plan Update, where VHB is setting a long-term vision and implement actions to build a world-class, sustainable transportation system in Atlanta; and an On-call Environmental Services contract for GDOT. In 2016 VHB purchased the assets of **Fountains Spatial**, a provider of geographic information system (GIS) services located in Schenectady, NY.

GOLDER BACK IN THE ACQUISITION GAME WITH TUNNEL EXPERTS ALAN AULD

Renowned for technical excellence, ***Golder Associates*** *is a specialized global engineering and consulting firm with over a half century of successful service to its clients. With over 165 offices in over 40 countries and annual revenues of $1 billion, Golder's 6,500+ professionals are driven by a passion to deliver results, offering unique specialized skills to address the ever-evolving challenges that earth, environment and energy present to clients across the infrastructure, mining, oil & gas, manufacturing and power sectors. As an employee-owned company, Golder clients know that they are working with people who own the business and the outcome. Golder is not just a place to work, it is a promise of a living, dynamic environment where people collaborate, innovate, build enduring relationships, excel, and grow professionally in a strong culture of ownership. In May 2015, Dr. Hisham Mahmoud was appointed President and CEO after 27 years in diversified engineering and construction companies including SNC-Lavalin, AMEC, URS and URS-legacy companies Woodward-Clyde and Dames & Moore.*

EBJ: How long was your restructuring process at Golder to get to the position where you could consider acquisitions of some scale?

Mahmoud: We wanted to make sure we were comfortably working from a position of strength. Our efforts weren't just about restructuring, they were about revisiting and reaffirming our destination for the company and developing a corresponding strategy. We spent two years on this effort and the results have been very strong.

EBJ: Is the new Golder better suited to be able to provide shareholder appreciation value and career opportunities to senior and project staff at acquired companies?

Mahmoud: Yes, absolutely. We've had a long and successful history building our company to where it is today, while providing strong returns to our shareholders and career opportunities to our people. It is a significant incentive for someone to join our company and to become an owner.

EBJ: How do you prioritize acquisition opportunities for Golder based on new clients, new services or capabilities or new geographies? Which one of these provides the most strategic value for Golder?

Mahmoud: All of the above. Acquisitions are an important mechanism to support our strategy. We are not acquiring for the sake of acquiring; it is a means by which we can accelerate the delivery of our strategy.

EBJ: The Alan Auld Group has offices in the UK, Canada and the US. Why did Golder acquire a company that operates in these countries? Why didn't you try to increase resources and profitability in other regions like Asia Pacific or Latin America?

Mahmoud: All of these markets are integral components to our strategy. What made the Alan Auld Group attractive was their skills and depth of expertise, which are highly transferrable to all our markets.

EBJ: Mining has been one of Golder's largest markets. The challenges that the mining industry encountered had a significant impact in the company. Why did Golder decide to acquire the Alan Auld Group which has a strong specialty in mining?

Mahmoud: The **Alan Auld Group** works across other sectors, including infrastructure, and Mining as a sector is expected to rebound. The skills and capabilities of the Alan Auld Group are highly transferrable across our sectors and markets and as a diversified and specialized company we are able to effectively move resources across the different sectors to serve our clients' needs.

EBJ: How do the Alan Auld Group's civil and structural engineering specialties complement Golder's capabilities?

Mahmoud: Quite well. We have some of the same capabilities and the Alan Auld Group brings additional breadth and depth.

EBJ: What other opportunities did you see when considering the acquisition?

Mahmoud: Lots of synergies, complementary client base, and the ability to offer more services in multiple geographies.

EBJ: Are you planning to add environmental services in the regions where the Alan Auld Group operates?

Mahmoud: Golder already has environmental services in the regions where the Alan Auld Group operates.

EBJ: What client sectors are driving growth for Golder in 2017?

Mahmoud: We are seeing growth return across all our sectors. We see a recovery in both mining and oil & gas, consistent infrastructure performance, and good growth in manufacturing and power sectors. ◻

Our efforts weren't just about restructuring, they were about revisiting and reaffirming our destination for the company and developing a corresponding strategy.

Golder acquires UK-based Alan Auld Group

Golder Associates (Palm Beach, Fla.) is acquiring the **Alan Auld Group of Companies** (Doncaster, U.K), with offices in the U.K., Canada and the United States. Alan Auld Group provides specialized engineering design and construction services for underground structures. Over the past two decades the Group has been involved in the design of many complex mine shafts worldwide, in addition to providing tunnel and shaft design, rehabilitation and project management services for the power, water and transportation markets. Employee-owned Golder has 165 offices worldwide.

ATLANTIC ENVIRONMENTAL SOLUTIONS GROWS IN NY AND NJ PROPERTY MARKETS

Atlantic Environmental Solutions Inc. *(AESI, Hoboken, NJ) is a full-service environmental consulting firm celebrating 20 years of helping businesses comply with complex environmental laws and regulations. Most active in New Jersey and New York the has 23 employees and has handled over $50 million in industrial and commercial projects at over 5,000 client locations across 47 states. Services include environmental due diligence; soil and groundwater investigations and remediation; and asbestos and wetlands surveys. As president of AESI, Michael Novak, LSRP, has 29 years in environmental consulting and remediation services. Novak has been responsible for directing more than $60 million in environmental projects during the course of his career and was among the first group of individuals to be issued a license by the State of New Jersey under its Licensed Site Remediation Professional (LSRP) program.*

EBJ: How has business been in general in the past couple of years?

Novak: Over the past 10 years, AESI has experienced substantial growth, with revenues increasing fourfold. Projects have ranged from asbestos evaluation for 1,500 properties in 47 states for a national retailer to evaluating 1,500 homes impacted by Super Storm Sandy including LSRP services for a city in Hudson County; and over 100 remediation projects for Newark and Port Elizabeth-related industrial and logistics businesses.

We routinely perform Phase I Environmental Site Assessments for property buyers, sellers and lenders to help establish "innocent landowner" status in commercial real estate property transactions. AESI also represents roughly 1.5 percent of the productivity under the New Jersey Department of Environmental Protection (NJDEP) Site Remediation Professional (LSRP) Program. To date, the firm has closed 140 LSRP matters and has 270 total LSRP projects.

EBJ: What growth are you projecting for the company in the next two years?

Novak: The growing number of commercial industrial real estate transactions in the New Jersey/New York marketplace is fueling demand for firms that specialize in complex environmental laws and regulations. AESI is meeting this demand by simultaneously managing an increasing number of large and complex projects and the resulting rapid growth of our firm. With no sign of a market slowdown on the horizon, we plan to continue growing over the next decade by expanding the footprint of properties we remediate.

EBJ: What major trends have you noticed within the Environmental Consulting and Engineering Industry?

Novak: Developers, architects and realtors are becoming increasingly aware of vapor intrusion concerns for residential and commercial buildings. Many mixed-use properties in urban and suburban settings are seeing rapid turnover, and gasoline stations, dry cleaners or small print shops – which can be sources for vapor intrusion – are being converted to other commercial uses. Volatile organic discharge (petroleum or solvents) does not have to migrate far to cross property boundaries in these settings.

Protection to buildings using a geo-textile vapor barrier or installation of a passive sub-slab venting system provides a simple, low cost, preventative engineering solution to nearby offsite sources of ground-water impact. For sites that may be impacted by migrating vapors, the average additional cost of $2 per square foot is money well spent as a preventative measure, providing sensitive tenants with a measure of safety and making the property more marketable in the future.

EBJ: What economic factors could have an impact in the industry within the next 2 years? Which market drivers are you responding to and how are you positioning your services for the future?

Novak: There has been substantial demand for industrial properties, coupled with a high turnover of these assets. Key drivers include the continued rise of e-commerce and demand for same-day delivery; the growth of food and meal delivery services fueling a need for refrigerated warehousing; the forthcoming legalization of marijuana; expansion of logistics companies; the deepening of the Panama Canal; and the raising of the Bayonne Bridge.

These and other projects typically require AESI's expertise and capabilities, and we expect this trend to continue for the foreseeable future. That said, maintaining a diverse mix of real estate clients – including industrial, retail, mixed-use residential and office building owners – allows our firm to thrive in the event there is an economic downturn. When economic conditions negatively impact one or more of these market sectors, we have the benefit of continuing to receive project work from sectors where business remains strong.

EBJ: How does the company divide itself into business units now: by region, by service or by client? What percentage of the total company's revenue does each business unit generate?

Novak: AESI is a service-driven firm. Approximately 60% of our total revenue is generated by environmental due diligence and soil and groundwater remediation services. The balance is construction services; asbestos, wetlands and indoor air quality surveys; and professional services including expert testimony and litigation support on multiple environmental matters.

EBJ: How do environmental regulations in New Jersey compare to the ones in other areas of the country?

Novak: In the area of non-LSRP investigations specific to environmental due diligence, New Jersey has unique regulations related to "innocent landowner" status in commercial real estate property transactions. In other states, including New York, property buyers are not responsible for contamination that they discover prior to acquisition following due diligence and all appropriate inquiry. In New Jersey, the buyer is only deemed an "innocent purchaser" if adequate pre-acquisition due diligence is performed through a Phase I Environmental Site Assessment proving the purchaser could not discover contamination.

EBJ: How is the industry adapting to new regulations?

Novak: Today's real estate market, particularly in New Jersey and New York, is largely influenced by environmental concerns. Extensive liabilities resulting from leaking underground storage tanks, buried industrial waste, poor quality fill material, improper handling of hazardous materials, historic PCB usage and spills have significantly changed the way business is conducted with regard to the development, management and transfer of property.

New Jersey is one of the most highly regulated states in the country. In 2009, the New Jersey Department of Environmental Protection (NJDEP) created the Licensed Site Remediation Professional (LSRP) Program, which allows approved environmental professionals to investigate and remediate properties and Areas of Concern (AOC) without NJDEP oversight, subject to possible audit. AESI's LSRPs work closely with clients to investigate sites, and we are responsible for completing the remediation of contaminated sites to achieve full compliance with the program's Technical Requirements for Site Remediation (Technical Requirements) and other applicable standards.

To date, the LSRP program has been successful in improving the usability and profitability of contaminated commercial properties. It is currently being evaluated with an eye towards improving efficiency in order to make it easier to process case closure documents and permits and, in turn, facilitating future property transactions.

EBJ: How have you been able to differentiate the services that AESI provides?

Novak: Companies invested in development in the region benefit from AESI's ability to navigate this complex regulatory environment. We strategically target our services to the areas of industrial and commercial property transactions. Working closely with property stakeholders, including brokers and developers, we evaluate each client's timeframe and tailor the approach to meet project goals and regulations. From the start of the planning process through project completion, we invest the time and resources necessary to achieve desired outcomes and build long-term client relationships.

AESI's staff is specifically trained to perform due diligence and remediation services in this arena. Our scope of services complements our clients' strategic business plans, and each project is assigned to a seasoned manager based on specific technical requirements and the nature of the compliance issues involved. Our professionals have expertise in geo-scientific and environmental disciplines such as hydrogeology, environmental engineering, facility assessments and building inspections, all with required company certifications. This gives us a distinct advantage over consulting firms that are not as specialized. We can be far more efficient and cost-effective in identifying critical issues that need to be resolved as a part of these transactions.

EBJ: Are your clients located mainly in New Jersey or do you have clients in other areas? Would you be expanding into new territories in the near future? Why or Why not?

Novak: AESI has two decades of experience in the regulatory, technical, and management aspects of environmental issues in New Jersey, New York and nationally. Our 20-year relationship with national retailer Foot Locker has involved asbestos evaluation for 1,500 properties in 47 states, and we have significant expertise handling complex remediation projects and environmental portfolios. Whether working with municipalities, industrial brokerage firms, transit village developers, REITS, general contractors or utilities, we are dedicated to managing and resolving environmental concerns to ensure a better quality of life in communities throughout the region, driven by the vision of creating safe, environmentally clean places where residents can live, work and play.

EBJ: What size and growth goals does AESI have in the strategic plan? What steps are being implemented?

Novak: With the rapid growth of New Jersey's industrial real estate market, AESI has had to continually evolve in order to keep pace with demand. Our firm has been successful in meeting this challenge by improving the efficiency with which we are able to add qualified professionals, and implementing a strategy of hiring highly competent senior managers who are skilled at training and managing project teams.

AESI has steadily expanded our professional team, adding high level, experienced problem-solvers who have the skills to meet the specific needs of our clients and projects. During the past 12 months we have bolstered our team with nine new staff members, and we expect to fill several more positions in the coming months. This has created a dynamic internal environment where we are continually expanding our knowledge base and increasing the depth of resources necessary to deliver the highest quality services to new and existing clients.

EBJ: What are some outstanding projects that you are currently working on?

Novak: Over the past 20 years, AESI's impact has been felt throughout the region in projects where we have played a pivotal role in returning contaminated industrial properties to beneficial use. Recent high-profile examples include: Converting a landfill into a parking facility for a national car rental company; remediating a 100-year-old chemical plant to serve as a parking and trucking travel center; and helping to reposition a 6-parcel, underutilized site in Red Hook, Brooklyn into a last-mile distribution facility.

EBJ: How would you describe AESI's culture and values?

Novak: AESI has established an open culture that provides employees freedom and flexibility in their work as well as high levels of performance in meeting technical needs required by our clients. This motivates our employees to hold themselves and their teammates accountable for delivering high-end service to our clients.

Communication is the key to maintaining an open, accountable culture. AESI's horizontal structure is intentionally designed to promote teamwork in order to develop the most cost-effective solutions to client challenges. We foster an entrepreneurial environment that places a high value on ingenuity, creative problem solving and calculated risk assessment. ◻

HDR SEES GROWTH IN TRANSPORTATION, COMMODITY AND POWER SECTORS

For more than a century, ***HDR*** *has partnered with clients to shape communities and push the boundaries of what's possible with 10,000 employees, in 225 locations around the world. HDR's engineering, architecture, environmental and construction services bring a breadth of knowledge with an optimistic approach to finding innovative solutions that defines its past and drives its future. HDR reported over $1 billion in environmental consulting and contracting revenues in 2016: 42% state/local, 41% private and 17% federal. Respondent is Brian K. Hoppy, CEP. Senior Vice President. Director, Environmental Sciences and Planning.*

EBJ: How has business been in general in the past couple of years?

Hoppy: HDR's key market sectors encompass healthcare, science and technology, civic architecture, federal, industrial, mining, oil & gas, power, private development, transportation, and water. Overall, HDR has experienced growth across the board over the past few years.

EBJ: What major trends have you noticed within the Environmental Consulting & Engineering Industry?

Hoppy: We are seeing a potential increase in the level of infrastructure spending, especially in the transportation, commodities, and energy sectors. Also, we are seeing a shift in regulatory enforcement in the U.S. from the federal government to the states. Globally, we are seeing an increase for environmental services, especially in emerging economies, driven by water availability, water quality, biodiversity, and resiliency.

EBJ: What growth do you forecast, for your sector of the environmental industry, over the next 2-3 years? The next 5 years?

Hoppy: We are forecasting moderate growth within the environmental industry over the next 2-3 years, with stronger growth over the next 5 years with an increased focus on climate change and resiliency.

EBJ: What economic factors could have an impact in the industry within the next 2 years?

Hoppy: Tax reform in the U.S., if passed in its current form, will have a potential positive impact on the industry. That being said, the promise of increased transportation and utility infrastructure spending would have a much broader and more positive impact. Also, multi-lateral and bi-lateral trade negotiations, once finalized, would also positively impact the industry.

EBJ: How is the industry adapting to new regulations? What are these regulations and how do they vary within different regions of the country?

Hoppy: We are not seeing many new regulations, rather a roll back of existing or formerly proposed regulations at the federal level (Clean Power Plan, Waters of the US) with several states (East and West Coasts) taking action in contrast to the federal government. While there is a lot of discussion on new or fewer regulations, the changes have yet to materialize on a broad scale. Industry is adapting and monitoring regulatory changes closely.

EBJ: Which markets have increasing need for environmental consulting and engineering services?

Hoppy: Repairs and upgrades to domestic infrastructure, especially in the transportation and utilities sectors, are necessitating an increase in for environmental consulting and engineering services. Response to climate change and the need for more resilient infrastructure is another important driver, domestically and globally.

EBJ: HDR operates in various countries. Please provide some highlights of your operations and projects in the following regions:

• Europe

HDR's European presence is solely in Germany (7 locations). Recent projects include: environmental/sustainability services as part of design of London's Kings College chemical biology building, including energy efficiency, renewable energy on-site, water-use reduction, photovoltaics advisory services.

• Middle East

HDR has offices in Qatar (Doha) and UAE (Abu Dhabi, Dubai). Work in fisheries and water quality is prominent in the region.

• Asia Pacific

HDR has offices in Australia (Brisbane, Melbourne, Sydney), China (Beijing, Shanghai) and Guam. Recent work includes:

• Guam

Studying effects of dredging on coral and other native species in Apra Harbor, Mangilao, site of proposed US Navy wharf for aircraft carriers.

• Australia

Assisted on Cunningham (Queensland) highway upgrade, providing input on, amongst others, environmental constraints in route selection process, including flooding, ecological and geotechnical factors, and in securing environmental approvals for sections of corridor link.

• S Korea:

Environmental services for design of

HDR Environmental Revenue Generated in 2016

Project Owners	Markets	Environmental Revenue (%)
Federal	Homeland defense and security, regulators	17
State/Local	Transportation, municipalities	42
Private/Commercial	Energy, commodities, utilities	41

US Army's Camp Humphreys Centre in S Korea, inc carbon neutral, energy conservation and efficiency, stormwater management, water efficient landscaping, water use reduction features.

• **China:**

Environmental services for the masterplan of the relocation of Yunnan Baiyao's campus in Kunming, incorporating green roofing, storm water management and energy efficiency features.

• **Vietnam:**

Prepare EIA of 11 proposed hydropower projects along the Mekong Delta, covering fisheries, biodiversity, navigation, agriculture, livelihood and economics.

EBJ: What has been the principle aim of HDR's strategy over the past couple years: (Growth, diversification, focus on core competency, focus on new customers, globalization, focus on earnings, etc.)

Hoppy: Our strategy has focused on our clients, connecting our employee-owners, and providing meaningful experiences for our project teams and the communities in which we live and work. We believe that the way we work can add meaning and value to the world. That ideas inspire positive change. We bridge the gap between art and science, natural and manmade, idea and achievement. Above all, we believe that collaboration is the best way forward.

EBJ: What overall size target and growth goals does HDR have within the company's strategic plan? How does your business unit support the company's overall strategic plan?

Hoppy: Our goal is to be the best-all around consultancy for our clients. We maintain a strong quality assurance program and the best technical professionals the industry has to offer – all to ensure our clients receive the best guidance, designs, and advice on all of their project needs.

EBJ: How does the company divide itself into business units now: by region, by service or by client?

Hoppy: HDR is a matrix organization organized by client/market, geography, and technical services.

EBJ: How many employees do you have in your business unit? What role does the environmental practice play?

Hoppy: We have more than 1,000 environmental professionals. Our No. 3 environmental sciences ranking (Engineering News-Record) stems from providing clients with credible and defensible solutions for their facility and infrastructure projects. HDR's multidisciplinary environmental capability is integrated throughout the business and across all markets. We are ranked No. 11 in the Top 200 Environmental Firms (Engineering-News Record) with environmental representing 45% of the company's overall revenue.

EBJ: Which market drivers are you responding to and how are you positioning your services for the future?

Hoppy: Key market drivers include regulatory uncertainty, aging infrastructure, advances in artificial intelligence, increased public demand for clean and renewable energy, improvements to autonomous/connected vehicles, increased data collection and analysis capabilities. Our teams continually monitor and forecast market opportunities, retain or develop the necessary technical expertise, and position HDR to best support our global clients.

EBJ: How have you been able to differentiate the services in your business unit?

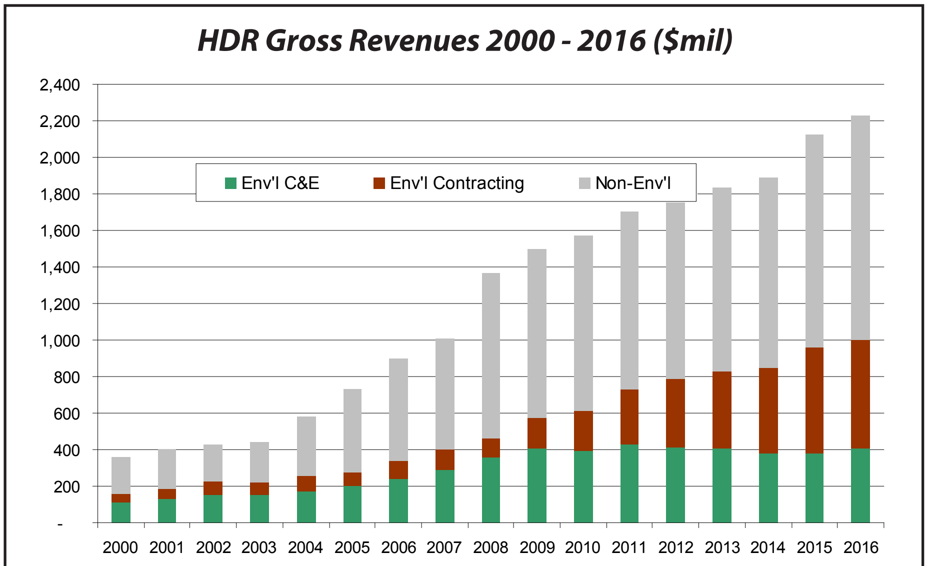
Hoppy: It takes the right experts, tools and an integrated approach to drive the sustainable growth we have experienced. We deliver high-performance built environments that value the natural, economic and human considerations.

EBJ: Are you building or designing climate adaptation and resilience into your clients' assets? Which clients are most interested or advanced?

Hoppy: Yes. Coastal cities and municipalities, ports and other transportation infrastructure clients, as well as federal clients.

EBJ: What motivates you most in your work and how does that translate down to your employees and colleagues?

Hoppy: Everything we do is a service to the public… the roadways on which people drive, the water they drink, the hospitals that take care of them, the facilities used for research, and the environment in which they live. We come to work each day knowing that what we do benefits our clients as well as the value of our company. By helping our clients realize their goals, we are creating lifelong relationships that strengthen our company and the communities we live in. Our staff possess an eagerness and willingness to assist each other that sets us apart in our industry. It's a unique part of our employee ownership culture that instills this passion and responsibility. It is one of the best attributes of our company, and the one that makes me most proud to be a part of HDR. □



Source: Environmental Business International, Inc. EBJ database of environmental C&E firms.

PARTNER ENGINEERING AND SCIENCE CONTINUES STRONG GROWTH PATH IN COMMERCIAL REAL ESTATE MARKETS

Partner Engineering and Science Inc. *(Torrance, Calif.) offers full-service engineering, environmental and energy consulting and design services throughout the Americas, Europe, and around the globe. Drawing on over 90 years of business experience, their multidisciplinary approach allows them to serve clients at all stages from initial due diligence and design to development and construction, as well as the ongoing maintenance and optimization of a real estate asset. Partner is comprised of more than 700 professionals, and supported by a robust network of Partner Associates, distributed throughout the US. Partner offers a full complement of environmental, engineering and energy services that include the broad array of both Assessment and Solutions services. Partner supports a diverse customer mix that includes financial services/lending institutions, commercial real estate owners/operators, investors and developers, including prominent REITs, as well as the attorneys that support them.*

Q&A respondent Elizabeth Sherwood Krol, Partner's National Client Manager, has more than twenty years of experience as a Professional Geologist (P.G.) specializing in the environmental and physical due diligence of commercial real estate, including commercial, flex/industrial, retail and multi-family properties.

EBJ: What market trends have you identified within the environmental consulting and engineering industry?

Krol: We strive to put our clients first. We work hard to ensure that we meet and exceed our clients' needs and expectations. Based upon the pressures they experience in the market, in turn, we are experiencing increased competition. More specifically, we are experiencing ever tightening due diligence windows, often a mere 3 weeks, as well as a corresponding tightening in budget constraints, both due to the myriad competitors that are present in the marketplace offering very competitive rates, as well as due to the "new normal" of a two-week turnaround, without consideration of expedite fees or elevated rates for supplemental staff and overtime to ensure that these tighter deadlines are met.

EBJ: How do client's needs differ in different areas of the country? Which states generate most of Partner's environmental consulting and engineering revenues?

Krol: We are fortunate to have a highly sophisticated population in the northeast, which translates into very savvy investors of commercial real estate. We see the increased focus on quality and attention to detail rippling nationwide, perhaps because many of these premiere investors are finding good opportunities outside of the New England states.

Given our strong presence and birthplace in the greater LA area, we certainly are seeing very strong revenues out of California, and we also have an east coast headquarters in Eatontown, New Jersey, which avails us of tremendous opportunities in New York and New Jersey, as well as eastern PA and the Mid-Atlantic States. Based upon EDR's Scorekeeper model, Partner is the market leading provider of due diligence services in most states nationwide, and rising in the rankings in states where we have more recently established a presence, such as in Massachusetts.

EBJ: Partner offers a variety of energy and sustainability consulting services. Could you provide an overview? How are services different from the ones offered by competitors?

Krol: What really sets us apart is the ability to integrate energy services with our Assessments and Solutions practices. We are always seeking to support our clients, providing them with customized services that are "right sized" to the task at hand. So we can scale up or down, depending upon the needs and objectives of the client. Most recently, Partner Energy had an opportunity with an agricultural business that was pursuing an energy grant from USDA to upgrade their HVAC systems, and our environmental team was able to supplement this work with the Phase I Environmental Site Assessment required by their lender for a portion of the funding.

EBJ: What market trends have you identified within energy and sustainability consulting?

Krol: One area where we are finding solid opportunities is with the addition of energy and sustainability consulting integrated into our due diligence for our Investment Advisory Group clients. These are institutional owners/operators/investors who are looking at value add opportunities. Our team will provide a comprehensive, equity level Phase I Environmental Site Assessment, Property Condition Assessment and Mechanical, Electrical, Plumbing, Fire and Life Safety (MEPF/LS) assessment. This integrated combination of services provides a broader view of the opportunities to decrease operational costs and increase revenue for investors. We have also introduced these clients to the benefits of both the Fannie Mae and Freddie Mac green financing programs, which gives them direct cost savings at a preferential loan rate. We are one of only 4 providers nationwide who have been authorized under this program.

EBJ: How has business been in general the past couple of years for Partner?

Krol: We are very fortunate to continue to experience exponential growth. Our founder and CEO, Joe Derhake, likes to say that we launched a "recession rocket" in the aftermath of the financial market collapse in 2008, and it has led us to 10 consecutive years of growth. We can attribute this to our keen attention to changes in the market place and expanding our services to best support our customer's needs.

EBJ: What are Partner's overall financial goals for the next two years? Which strategies are currently being implemented to reach those goals?

Krol: Joe has an audacious goal for us in the coming two years, which includes expansion of services and geographic locations domestically and internationally, and continued market and thought leadership. Most importantly, we continue to seek new opportunities with existing customers, as well as the identification of areas where we can bring benefits to new prospects who we intend to make our clients. Strategies include a focus on Thought Leadership – ensuring that Partner has the pulse of the marketplace and we are opining on market changes, new service areas, and opportunities for our clients to reduce operating costs and increase shareholder value.

A good example of this is really speaking to our customers. Recently, a long term Real Estate Investment Trust (REIT) client of mine asked if we could do an IRV analysis. My colleague, Marc Bourdages (who is the technical lead of our Investment Advisory Group with more than 25 years of institutional investment experience in commercial real estate), conducted the IRV analysis. His revised IRV allowed our client to negotiate with their insurance provider for a reduction of their insurance premiums on an annual basis that was multiples of our fee. It was a tremendous value for the client and a really successful outcome for our team to know that we made a difference for our client, not just short term to get the deal closed, but they will reap the benefit of the reduced insurance premium for the next 10 years, essentially their entire hold period.

EBJ: What marketing strategies have you found to be the most effective for the type of services that you offer?

Krol: Partner is truly committed to Thought Leadership for our industry. We are routinely speaking and publishing in a broad array of formats and platforms. We are actively engaged in important industry trade associations such as the Environmental Bankers Association (EBA), Risk Management Association (RMA), CREW Network, ULI and others.

Personally, I have been very fortunate to establish long term relationships with my clients, which provides many outstanding direct opportunities to support their risk management and overall business objectives, with the occasional bonus of a generous referral to a like-minded client that they believe would benefit from working with me and Partner.

EBJ: Partner provides services internationally. How do you market services in other countries? How do these services differ from the ones that you offer in the United States?

Krol: We established our UK presence with a long term Partner employee and augmented with local resources with knowledge of the local market place. This allowed us to both bring the Partner brand "across the pond" as well as to ensure that we had a strong working knowledge of local regulations and requirements. This approach has helped us in all new markets that we have pursued.

EBJ: How are client's needs different in Mexico and Poland? Is local personnel required for the type of services that you offer?

Krol: We do see differences in the types of services that are most in demand by the client types most prevalent in certain markets. In Mexico, we support more manufacturing and industrial clients and in the UK and Poland, we are supporting more financial services, real estate investors/developers and insurance companies. We are flexible company with a broad array of diverse services and we customize our offerings to best suit the needs of the customer, and we go where they need us to go.

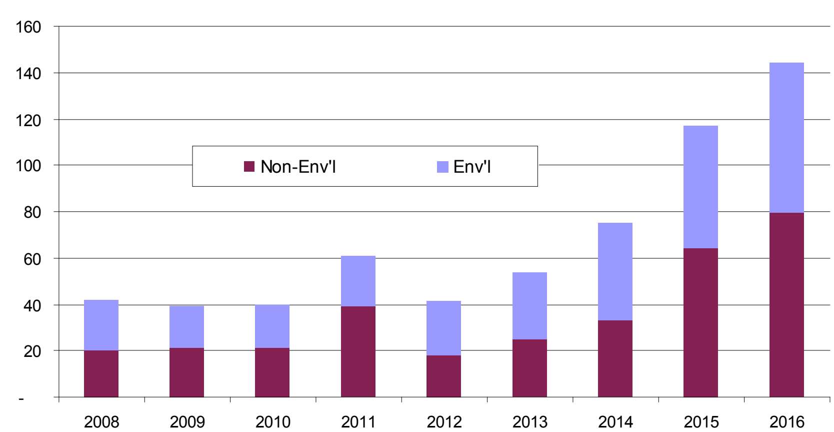
EBJ: Please provide a description of some noteworthy projects that you have conducted nationally and internationally.

Krol: We work closely with a client who is a securitized lender, based in the Greater Boston area. We replaced their previous consultant who was both unresponsive, as well as not definitive in their analysis. We have conducted more than 30 third party reviews for their risk management program, and established a robust evaluation criteria with their team's input.

One project that stands out to me was one where the development partner was telling them that the site was development ready, no outstanding issues. However, during our review, we identified the presence of onsite underground storage tanks (USTs) that were installed in the 1950s. The developer insisted that they were a "non-issue" – either removed or closed in place, but certainly nothing that anyone should be concerned about.

We were on a somewhat tense call with all parties but we kept the good counsel that our client has come to expect of us as their trusted advisor. We held our ground, the developer agreed to the ground penetrating radar (GPR) survey and Phase II subsurface investigation in the area identified as the former UST locations. Not only were the tanks still present onsite, but they had leaked. We were grateful that we spared the client the future project delays that this surely would have resulted in when the leaking UST (or LUST) was encountered during site work. A short amount of time and money invested up front spared them significant delay and expense in the future. Plus, it really cemented for our clients that we are looking out for their best interests.

Partner Engineering & Science Revenues 2008 - 2016 ($mil)



Source: Environmental Business International, Inc. EBJ database of environmental C&E firms.

EBJ: Are you considering any acquisitions?

Krol: Partner has predominantly grown organically and has benefited from targeted acquisitions such as the addition of the engineering resources of the **Birdsall Group** in New Jersey. We continue to seek talented professionals in myriad locations, across our entire array of technical service areas.

EBJ: What challenges do you see for the environmental consulting and engineering industry? How is the industry evolving and where do you see the most potential?

Krol: Certainly, there is increasing time and cost pressures and so we leverage technology whenever we can to ensure that we are as efficient with both labor and expenses wherever possible.

EBJ: What do you feel are the most pressing environmental and social issues today in 2017 and in the longer term out to 2030?

Krol: We hear developers' concerns regarding resiliency, especially in coastal cities such as Boston, this is a threat to commercial real estate assets along the seaport. We have been active in leading the American Society for Testing and Materials (ASTM) task force seeking to establish a wind/storm PML standard, similar to the seismic PML, to help clients to ascertain probable maximum loses to be sustained in extreme storm events. We have also recently published our emphasis on due diligence checklists, preparedness to strengthen structures before disasters, as well as making sure that we restore function and occupancy as soon as possible, which is the main priority of property owners, operators and tenants. ☐

We hear developers' concerns regarding resiliency, especially in coastal cities such as Boston... this is a threat to commercial real estate assets.

2017 REVIEW & OUTLOOK: STEVE GIDO FOCUSES ON SMALL COMPANY CHALLENGES AND OPPORTUNITIES

EBJ contributor Steve Gido of ***Rusk O'Brien Gido + Partners*** *caught up with Executives of architecture, engineering, planning, and environmental consulting firms, as part of ROG + Partners' annual mid-year review. For this year's piece Gido focused on niche and specialized firms run by first generation founders. 95% of the A/E firms have less than 50 employees and these owners offer unique insights for success as well as their challenges and how their firm's size is a competitive advantage.*

COWAN GROUP ENGINEERING

Jeff Cowan, Principal, Cowan Group Engineering, LLC, Oklahoma City, OK

Steve Gido: Tell me about Cowan Group Engineering's capabilities and markets. How many staff members do you currently have?

Cowan: Cowan Group Engineering (CGE) is a general civil engineering firm providing professional services for water resources, transportation, contract city engineering services, drainage, land planning/development and land surveying. Our market is located across Oklahoma and our client base includes local and state governments, along with private organizations. Currently, we have 22 staff members and looking to add more in the next two quarters.

Gido: How has your performance fared so far in 2017?

Cowan: We've been on track this year, meeting our 2017 revenue goals along with net income results.

Gido: What are the biggest concerns your clients face today?

Cowan: Our biggest concern is the Oklahoma economy (balanced budget negotiations) which affects all businesses and citizens in Oklahoma. The state government needs to improve the revenue side of the equation while maintaining a favorable business climate for entrepreneurs and attracting new companies here.

Gido: How has your firm's size been a competitive strength?

Cowan: We are very competitive due to our firm's size. We are able to serve the smallest to the largest cities throughout the state.

Gido: What inspired you to start Cowan Group Engineering? What advice would you offer engineering entrepreneurs today?

Cowan: The desire to start a company has always been a part of my vision and recently we celebrated our 5 year anniversary. Recently, our firm was notified that we made the 2017 Inc. 5000 list for our 1000% growth over the last five years! My advice to engineers starting a company is to develop a written "business plan" and then work the plan. Next, find a local banker to partner with for the growth.

BLACKSTONE ENVIRONMENTAL

Michael Kukuk, P.G., President, Blackstone Environmental Inc., Overland Park, KS

Gido: Tell me about Blackstone Environmental's capabilities and markets. How many staff members do you currently have?

Kukuk: Blackstone employs engineers, geologists and scientists to serve our clients. Our staff size at the current time is 15 and we are very diverse in our capabilities to deliver. Our main market areas are: solid waste engineering and consulting; water resource engineering; general environmental consulting; construction management and oversight; groundwater monitoring and reporting; and air permitting services. We mainly operate in the Central United States.

Gido: How has your performance fared so far in 2017?

Kukuk: 2017 is turning out to be a very good year for Blackstone. The 1st quarter was fairly flat, which is not atypical for us and Q2 and Q3 was our busy season from an engineering design and construction oversight standpoint. Our utilization remains high and our profits are at or above plan. After a disappointing 2015 due to client budgetary restrictions and market forces, we had an outstanding 2016, and 2017 has followed suit. In 2016 we added 3 engineers, significantly increasing our capabilities. One of these strategic hires was an air permitting and compliance engineer, which added a new service line for our clients. We have added 2 geologists so far in 2017 with more growth planned. All of our growth has been organic.

Gido: What are the biggest concerns your clients face today?

Kukuk: Our client's biggest concerns are associated with the continued uncertainty with the economy, political direction/leadership, and environmental regulations. All of these factors add uncertainty which affects the budgeting process as well as the ability to confidently plan growth for the future. Budgetary demands on our clients tend to dictate the overall feasibility of a project even if the solution will be long term improvement. Some needed projects or improvements don't get completed due to short term budget restrictions, even if it costs the client more money in the long run. Our clients want to know that our approaches to their issues are sustainable now and into the future, and won't be significantly altered by political or regulatory forces.

Gido: How has your firm's size been a competitive strength?

Kukuk: The size of our firm, which is relatively small at this time, has generally been an advantage for us. We work for many large corporations. We have had long relationships with many of our clients, even though Blackstone has been in business less than seven years. Many clients transferred their work over to Blackstone when we incorporated in 2010. Our smaller size is not a negative factor with our clients. They hire us because we are very nimble and they know our people and the quality of the product and customer service that we will deliver. Our size also gives us a competitive advantage with our lower overhead multiplier (fees). Being a low-cost provider is not our goal but it does give us the ability to be very competitive when we need to be.

Gido: What inspired you to start Blackstone? What advice would you offer environmental and engineering entrepreneurs today?

Kukuk: In 2002 I was one of three co-founders of another environmental, engineering and hydrogeological firm in Kansas City which was very successful at the time. I left that firm in 2010 and founded Blackstone with the desire to surround myself with like-minded people and to create a company where professionals can practice their craft in a collaborative environment. I enjoyed starting and growing (with others) an employee-owned firm the first time and desired to do it again as opposed to taking a leadership position in a larger firm.

My advice to others would be if you fear failure, uncertainty, or a non-guaranteed paycheck, starting a company may not be for you. If you have the confidence (and clients!) than it will work and it can be very rewarding. There will be significant bumps in the road that you did not anticipate and you need to have the personality and fortitude to persevere through the tough times.

KMJ CONSULTING

Karen Jehanian, P.E., President, KMJ Consulting, Inc., Ardmore, PA

Gido: Tell me about KMJ Consulting's capabilities and markets. How many staff members do you currently have?

Jehanian: KMJ Consulting is a 100% woman-owned business. We are a niche firm whose market is public sector traffic engineering design, planning, and stakeholder involvement. We have clients at the federal, state and local level and are known in the market sector to provide strategic, creative and responsive service for nearly 20 years. KMJ's team is comprised of 15 members with a variety of skill sets, including traffic engineering, IT, stakeholder involvement and social media.

Gido: How has your performance fared so far in 2017?

Jehanian: So far, we have had a very productive year. I project our gross revenue at about $1.5M, an increase of about 10% over 2016. Our comparative utilization is also higher and our backlog is running at about 12-18 months. Managing the backlog, more specifically the peaks and valleys can be challenging. We project workload at the macro and micro level. At the macro level to 12-18 months and at the micro level based upon actual project work anticipated for eight to ten weeks.

Gido: What are the biggest concerns your clients face today?

Jehanian: One of our major clients has expressed a series of human resource concerns ranging from their staff being able to communicate and run meetings effectively to having enough experienced project managers to handle the volume of capital projects they have funded. As consulting engineers, we need to remember that the public economy affects our business in these ways. From our experience, we have found the most successful projects have had active project management teams on both the consultant and owner sides. In this case, as public-sector folks retire there are two ways that consultants can be effective: 1) by having excellent project managers who work proactively to anticipate and solve problems or 2) hire the public-sector retirees.

Most successful projects have had active project management teams on both the consultant and owner sides... as public-sector folks retire there are two ways that consultants can be effective: 1) by having excellent project managers who work proactively... or 2) hire the public-sector retirees.

Gido: How has your firm's size been a competitive strength?

Jehanian: KMJ currently has about 15 people on staff. This works for us. More important than our size, is the attitude and character of our people. They are great! And, our size offers us the opportunity to interact at a deeper level. We believe in training our staff to understand how to engage the client in a personal way allowing for a more targeted, focused and streamlined approach to their needs. Everything we do is customized. We are not a one-size-fits-all group behind a big company name. I know that our clients (both the owners and the consultants) value the quality of service they receive from KMJ. We communicate clearly, anticipate their needs and act appropriately.

From the position of our staff there are three opportunities: 1) they have direct access to the owner of the firm and share in an active and open dialogue throughout the course of a project and their tenure with KMJ; 2) they have direct access and receive feedback from our clients, and; 3) there is a synergy among our staff and we have the ability to learn from each other. This is something I really appreciate and that I think is very special about KMJ. We have a group of really smart, down to earth people who come to work each day excited to meet the day's challenges.

Gido: What does being a civil engineer mean to you?

Jehanian: In our field, we are given the choice to perform our civic and civil duty. Associating our work to real-life situations makes for a meaningful and fulfilling life. For instance, designing ADA curb ramps – you may not think much of it when you are talking a walk around town, but for those in a wheelchair, this is a vital resource. When you get to the heart of it and understand the 'Why' behind these plans and studies, we understand the real benefit to our society. This is very powerful and I keep it at the forefront of our work. It is not just the plans and studies, it is about the impact on humanity and civil society.

Gido: What inspired you to start KMJ? What advice would you offer engineering entrepreneurs today?

Jehanian: I truly believe that entrepreneurship is in my DNA! I come from a family that had both engineers and entrepreneurs and I had the spirit from a young age. I started out selling apples before I was allowed to turn the street corner alone (so, I found an older friend to escort me). As a teenager, I joined Junior Achievement and learned how to read financial statements and run a business. When I graduated from Drexel University with my BSCE, I was very intentional about learning how to run an A/E firm and when the opportunity arose to start my firm I seized it. As with most start-ups, it was not easy, but it was exhilarating to start from scratch and nearly 20 years later we are an ever-evolving, but always going concern. I started the firm to offer a unique work and cultural experience for our staff, and specifically to create a friendly and creative environment. By all accounts, this has been accomplished.

My advice to anyone interested in starting a firm or any business is that you really have to want it! If you go it alone, you need to be able to wear three hats: technical, marketing and accounting. Of course, once you get going you can hire these folks, but as a small business, it is always beneficial and useful to have this background.

Gido: What was on your summer reading list?

Jehanian: My summer reading list is usually either aggressive or aspirational depending upon how you look at it. I always have two or three books that I am reading. This summer's list included both fiction and non-fiction, including: A Dog's Journey by W. Bruce Cameron, Stories of Your Life by Ted Chiang and The Law of Attraction: The Basics of the Teachings of Abraham by Esther and Jerry Hicks. So, my list is eclectic and varied. No engineering or business books per se, but I'm always reading and learning.

JVP ENGINEERS

Vincent Pedraza, Principal and Executive Vice President, JVP Engineers, P.C., Washington, D.C.

Gido: Tell me about JVP's capabilities and markets. How many staff members do you currently have?

Pedraza: Established in 1992, JVP Engineers is an award-winning, nationally recognized mechanical, electrical, and plumbing engineering design firm. The firm began as an independent, small, professional corporation located in Washington, D.C., and has grown into a competitive enterprise with a reputation within the engineering community for engineering professionalism.

We specialize in engineering designs ranging from office buildings, airports, embassies, chanceries, and computer facilities to hotels, hospitals, laboratory and research facilities, museums, educational facilities, and military command centers. The firm has designed systems for buildings within the Washington Metropolitan area, across the United States, and internationally, including some of the country's most beloved historical structures.

Gido: How has your performance fared so far in 2017?

Pedraza: Over the years, we have predominantly done a lot of federal work. Given the condition of our federal government and the lack of an approved federal budget, we are seeing a reduction in workload. In contract, we are seeing more higher education and elementary school solicitations coming out. Notwithstanding the above, we have fared well in the performance of our current projects and are optimistic about the future work that will be coming out of the various federal agencies.

Gido: What are the biggest concerns your clients face today?

Pedraza: Although each client seems to be facing different issues, the more common ones appear to be: the collection of fees, managing the BIM process with multiple consultants, and the urgency of project schedules which do not appear to be afforded enough time to perform the required coordination and quality control.

Gido: How has your firm's size been a competitive strength?

Pedraza: As a small firm (25-50 people), we feel the competitive advantage we have is providing personalized service by high-level principals and senior engineers. The principals of larger firms tend not to be involved in the day-to-day design activities and we have learned that this is often what our clients are seeking. By offering the involvement of our senior personnel and owners, our clients have a strong sense of trust with respect to the designs we are proposing. Similarly, we are able to offer new interns and younger engineers an in-depth and hands-on experience working alongside veteran senior staff and principals.

Gido: You and your father established JVP and have worked together successfully for 25 years. How has that special relationship worked for you and the firm?

Pedraza: My father has been a mentor, business partner, friend, colleague, and confidant throughout these past 25 years. I could not have asked for a better scenario to start a business when I came out of college. The experience has been extremely positive, and we have enjoyed a great deal of success as result of our ability to complement each other's strengths and weaknesses. I could not have asked for a better partner type relationship. I have benefitted tremendously from his wisdom and guidance and I am thankful to have had the opportunity to work alongside him. His mentorship and tutelage have prepared me for the next 25 years and the future successes that JVP will achieve.

BRIGHTWORKS SUSTAINABILITY

Brandon G. Sprague, Principal, Brightworks Sustainability, San Jose, CA

Gido: Tell me about Brightworks Sustainability's capabilities and markets. How many staff members do you currently have?

Pedraza: We are a multi-disciplinary team of 22 consultants serving clients in over 25 industries from offices in Los Angeles, New York, Oakland, and Portland. Founded in 2001, Brightworks' early consulting practice in corporate sustainability helped organizations audit, assess, and quantify the environmental footprints of their operations and then establish systematic programs for managing, mitigating, and reversing those impacts. During this period, Brightworks facilitated UC Santa Barbara's first-ever campus sustainability plan, for example.

We are still active in developing and implementing corporate sustainability programs. But the same year that Brightworks was founded, the USGBC launched the LEED program. To meet the resulting interest in green buildings, Brightworks added engineers, architects, and energy experts to its initial team of consultants focused on business operations.

Today, we are active in the following practice areas: Energy, Carbon, Waste & Water Consulting; Green Building Certification & Consulting; Design Simulation & Modeling; Healthy & Sustainable Materials; Planning & Infrastructure; Corporate Sustainability Programs; and Reporting & Regulatory Compliance.

Gido: How has your performance fared so far this year?

Pedraza: We have experienced very strong growth for at least two years. Most interesting to us are the reasons we see for this. Our clients tend to be in growth industries and have resources to invest. Not only do the jurisdictions where they are based have impressive sustainability regulations; our clients' appetite to take on voluntary sustainability measures has also increased. The baseline for sustainability performance among these clients has rapidly shifted upward. At the same time, the sustainability laggards have increased their commitments. So we are seeing clients increase their efforts in multiple dimensions – more clients are taking action, and those who have already begun are taking more action.

Gido: What are the biggest concerns your clients face today?

Pedraza: Half of our clients are owners, and half are prime contractors, to whom we are sub-contractors (these include program managers, architects, engineers, construction managers, or general contractors). Among the owners, the leaders in sustainability are moving full-steam-ahead and setting ever-more ambitious environmental stewardship targets, especially clients in tech, financial services, and higher education. The sustainability teams within these organizations are managing far more complex sustainability programs, with far greater scrutiny from a wider range of stakeholders than ever before, and value our help. This creates the desire for seamless communication between client and consultant since we are ultimately one team.

By contrast, the prime contractors we work with are primarily concerned with the immediate need to win new business. Directly related to this, they seem most concerned with establishing, defending, and presenting the right mix of differentiating factors for each specific opportunity. This is very hard to do when practice is largely standardized between firms, as it is in architecture and engineering. Points of differentiation become points of parity when competitors generally meet the same standards of practice.

Independence has been a competitive strength for us.... Clients view sustainability practitioners within larger enterprises with skepticism, fearing reduced transparency and accountability and a focus on selling over innovation and project delivery.

Our A/E clients are increasingly asking us – and presumably other specialty consultants – to help them win new business by involving us heavily in new business pursuits. We recently wrote the sustainability approach for an architect client's proposal for a Living Building Challenge (LBC) project. We learned that the owner selected their team because they were, in their words, "overwhelmed by the thoughtfulness of the sustainable approach." That's a true win-win-win — we exceeded the owner's expectations, we helped a longtime A/E client win an extremely competitive pursuit, and we get to work with an enlightened owner and great design firm on an inspiring project!

Gido: How has your firm's size been a competitive strength?

Pedraza: Brightworks Sustainability can be considered a small firm and a large firm. We are a fairly large firm among sustainability-focused consulting firms. This is a function of our age (over 15 years of business), stage of maturity, client base, and business strategy. Our scale lets us serve large clients with complex needs. It also lets us develop areas of focused expertise in specialty areas of sustainability practice that make us useful resources to both large and small clients.

In addition to size, I would add that independence has been a competitive strength for us. Our clients have told us that they view sustainability practitioners within larger enterprises with skepticism, fearing reduced transparency and accountability and a focus on selling over innovation and project delivery. Being independent, fairly large among sustainability-focused consulting firms, small enough to be nimble, and expert in multiple complementary areas of expertise have helped our competitiveness.

Gido: What have been the drivers in your sales and business development philosophy? Is one marketing method more effective than others?

Pedraza: Related to the need for seamless communication with clients described above, we are very focused on maintaining close relationships with our owner clients and keeping them up to date on the many changes that are regularly occurring in sustainability practice. The high level of ferment recently in sustainability has made them eager to learn about new offerings and lessons learned from other projects we are working on. So we schedule regular calls, lunches, presentations, coffees, and happy hours to stay in communication with them. For our A/E and prime contractor clients, we are focused on showing them with our actions that we are doing all we can to help them win new business.

APEX DESIGN

Scott Thomas, P.E., PTOE, Principal, Apex Design, PC, Denver, CO

Gido: Tell me about Apex Design's capabilities and markets. How many staff members do you currently have?

Thomas: Apex Design is based in Denver with a staff of 32 really great people. We were founded in 2006 as an Intelligent Transportation Systems consulting firm and expanded into the traditional traffic engineering and transportation planning services. The majority of our work is in Colorado, with some clients in neighboring states. The clients we serve are typically public agencies.

Gido: How has your performance fared so far in 2017?

Thomas: Things are going well. Backlog is healthy and we have some larger "anchor" projects that provide base revenue and allow us to pursue other contracts with more freedom. We are on pace to grow revenue by 15% this year. Like others we've talked with, we are seeing a shortage of talented engineers. Luckily, Colorado is a desirable place to live and that helps with recruiting.

Gido: What are the biggest concerns your clients face today?

Thomas: Our clients are inundated with their day-to-day responsibilities and aren't able to get everything done they wish to achieve. We are seeing more on-call contracts and outsourcing of both technical and management roles.

There are some local infrastructure bond initiatives going to vote this November in Colorado and the State legislature passed a toned down version of the proposed transportation budget last session. Everyone would like to see infrastructure funding increased, and be more sustainable.

Gido: How has your firm's size been a competitive strength?

Thomas: We are a small firm and that allows us to be nimble. This provides us the flexibility to adapt to changing markets and pursue projects of all shapes and sizes; our staff appreciates this. We also focus on our niche and are able to remain specialized and do what we do well.

Gido: What inspired you to start Apex Design? What advice would you offer engineering entrepreneurs today?

Thomas: At the time we founded Apex Design, we were some of the only folks doing Intelligent Transportation Systems consulting work in Colorado and didn't really see a "home" for us at other firms. First and foremost we were engineers. Being ignorant about running a business really helped us! Had we known what we know now, we may have thought twice about launching. We purchased used computers and furniture, subleased modest office space, and incorporated and insured ourselves. Then we kindly asked clients to give us a try and figured out the rest as we went along. I've been constantly amazed by how helpful and eager most people are in our industry to share knowledge and provide advice and mentorship.

The advice I'd offer entrepreneurs extends to everyone: treat people well, do good work, and follow through on your commitments. Your personal reputation is what is important, and that follows you throughout your business endeavors. It really is hard to give advice on starting an engineering business because personal and professional goals vary so much.

Steve Gido specializes in corporate financial advisory services with a focus on mergers and acquisitions. Steve has assisted architecture, engineering, environmental consulting and construction firms of all sizes across North America achieve their growth or liquidity goals through successful mergers & acquisitions. Steve has over 15 years of investment banking experience and holds the chartered financial analyst (CFA) designation from the CFA Institute. ROG hosted its annual conference in Naples FL on November 8-10, 2017 and recently released the Fourth Edition of its Business Valuation and M&A Transaction Study. ☐

Our clients are inundated with day-to-day responsibilities.... We are seeing more on-call contracts and outsourcing of both technical and management roles.

GIDO SEES FIRMS ADJUSTING TO 'PROLONGED RECOVERY' WITH FOCUS ON PROFIT AND OPERATIONS; M&A STILL IN THE PICTURE

*Steve Gido, a principal at **Rusk O'Brien Gido + Partners** has over 15 years of investment banking experience and specializes in corporate financial advisory services with a focus on mergers and acquisitions. Steve has assisted architecture, engineering, environmental consulting and construction firms of all sizes across North America achieve their growth or liquidity goals through successful mergers & acquisitions.*

EBJ: With all the consolidation in the industry you've seen over the last decade or more, how would you say the challenges have changed for the small or for the mid-size company in the consulting engineering industry?

Gido: I would say there have been headwinds for engineering firms of all shapes and sizes this decade, particularly one that has witnessed slow and uneven growth across the industry, post-recession. For mid-sized firms, which we typically characterize as between 100-1,000 staff size, there are a shrinking number of these groups every year due to consolidation. Many leaders of these type of companies will readily admit the operational and financial forces of being caught in the middle of competing with global and national organizations with deep resources and those smaller boutique firms that dominate a local region or client sector and often possess lower overhead and billing rates. That's not to say that many haven't survived and thrived with their own autonomy and culture, but midsize firms, regardless of industry, often face similar pressures so that consolidation trend isn't going away anytime soon.

For small firms, they typically find themselves overwhelmed at this point in a mature industry cycle – projects continually coming in but not enough talent to effectively manage it all along with rising salaries and bonuses to retain core staff. Add to that more acute problems of leadership succession and ownership transition for smaller firms in general with aging baby boomer teams that are, in my opinion, woefully unprepared to pass the torch and create a sustainable organization.

EBJ: Data indicates that internal growth is substantially higher in small and mid-sized firms. Do you find this is true and what client sectors or client preferences are driving this?

Gido: Since 2011, the overall ENR Design 500 domestic growth rate has averaged 3.5% (its slightly lower when including volatile international revenue) which has been higher than the average GDP rate of 2.0% over that time. However, it's not in the high single digits like it was during the 2000s which creates bottom line pressure on these firms to look at their ownership structure, cost structure, M&A alternatives and what markets and services they really should be in. I would guess that smaller firms have bounced back this decade at higher growth rates but the reasons are not particularly obvious.

In an uneven economic recovery, states or regions with better business climates offer enhanced growth and building prospects than others struggling with budget woes and population outflight. We've seen nice growth in the general building segment of late (although some are forecasting a market top) in big cities across the country but uneven results in mining, oil & gas, federal and other municipal sectors. That may change with a massive infrastructure bill, and if the "Trump effect" with business confidence continues to march along.

EBJ: What operational issues are these companies struggling with most and how do you suggest they overcome them?

Gido: All Presidents and Principals lament the fundamental challenges of hiring good talent today. Recruiters and Human Resource leaders tell us the same thing. There is a "missing generation" of individuals in their late 20s to late 40s with the skills and interest our industry requires for the demands ahead, and that's a long-term issue. Finding people that can learn the fundamental business skills in running complex organizations along with technical prowess is always a problem.

For all the increase in project workloads, leaders are still struggling with clients demanding more from them at lower fees. That competitive dynamic really hasn't changed at all. Thus, in increasing instances you see the difficulties of companies trying to win work while holding their labor multiples and margins in line, particularly for large scale jobs. This industry still struggles to communicate and offer value enhancing differentiators to their clients to be able to justify the fees they are worth for their services and solutions.

EBJ: What growth challenges are companies struggling with most and how do you suggest they approach them?

Gido: At its core, our industry is one of project-to-project incremental success, meaning you need people to win the work and the work to justify the staff. The industry wasn't used to a prolonged "recovery" of only 3-4% top line growth, which changes your mindset of successfully running a professional services firm.

Many small and mid-size firms in our industry "shrunk to grow" this decade and have no desire to go back to the heady, and in many cases, unsustainable growth rates of the 2000s, but chose to focus on bottom line profitability and operational effectiveness. That means being more disciplined about the clients you serve, projects you undertake and staff composition.

But that is changing at a macro level. Firms that really weren't growing organically chose to expand through select acquisitions and that will continue to be a viable tool, particularly with the sheer number of firms and owners that will have to sell in the next 5-10 years.

EBJ: Recruiting and developing new talent has always been an issue in our industry. Do you think that challenge is more acute in 2017?

Gido: Yes, it's bad today and perhaps will get worse. I think you see that play out with simply fewer Gen Xers who were born and are available today to become owners and leaders in our industry in numbers needed at a macro level. Hiring entry level positions has not been a challenge but finding those project managers with 7-15 years of experience is a tough task.

I think the A/E and environmental industries will continue to struggle as more younger people from colleges and universities are attracted to technology careers and companies that require math, science and engineering skills will offer higher compensation but also dynamic cultures and careers more aligned with that younger generation.

Strategic planning in this industry has been a rather stale annual process with way too much groupthink and typically being driven by marketing and business development

EBJ: What is your perspective on how the strategic planning process has evolved over the last decade, and what do you think is an optimal or most logical schedule for companies of varying sizes in terms of 1-year plans, 2-year plans, 5-year plans, annual updates and some kind of schedule or planning/check-in cycle?

Gido: My own opinion is that strategic planning in this industry has been a rather stale annual process with way too much groupthink and typically being driven by marketing and business development. It's a mindset that "if only we had more work, our problems would go away" and that might be consistent with other professional services like law and accounting to some degree.

I think engineering firms that do highly effective strategic planning are the ones that take a more introspective and reflective look at what makes them unique, have fearless leaders that are not afraid to disrupt their organizations, critically ask what's working and not, where should they be 5-10 years from now, and really build cultures that reward and compensate those driving bottom line results. Many engineering firms are cautious or have collaborative cultures and that's fine, but getting to action often takes longer.

Also, there are so many new and exciting technological drivers that will be impacting our society and the way we live, work and move, so those organizations who are spending time planning for these disruptive changes are hands down going to be winners.

EBJ: What do you think have been some of the more important transactions in the environmental Consulting and Engineering business in the last 12 months or so and what do you think they mean for the industry?

Gido: The CH2M-Jacobs deal this summer just encapsulates the growth challenges that have come with the largest global players and need for continued scale and market diversification. If I had told you five years ago that URS, CH2M, Atkins, AMEC and MWH would all be gone and absorbed you would have thought I was crazy. This has translated to the boardrooms of other firms among the ENR 50 about their own plans, and should they continue to go it alone or not.

I like how a firm like WSP continues to be aggressive and acquiring global leaders in specific country markets like **Opus** in New Zealand, **Poch** in Chile and **Concol** in Colombia. Private equity continues to make entry points into our industry with recapitalizing quality companies. I think we will continue to see that unfold as investors seek out higher returns in non-traditional sectors.

EBJ: What interesting observations can you make about specific deals you may have worked on?

Gido: We have been fortunate to have been a part of many closed deals in 2017. I have recently seen that the best deals are increasingly the ones where the sellers are ready to make that transition and realize all the sudden change events that take place, personally and organizationally, when going through a transformation like a business sale. That means being able to give up degrees of control and independence. Also, while valuation and roles are certainly important, many mid-size and smaller sellers are addressing other non-financial objectives, like slowing down their pace, health reasons, risk minimization and preserving one's business legacy.

Buyers have gotten much better at this too, from sophisticated transaction and tax structures, more detailed and engaged integration planning, managing owner's expectations, and addressing any key staff or client issues up front. There's too much accountability and dollars involved to have these deals not work out.

EBJ: Regarding ownership in the environmental Consulting and Engineering business, do you believe we're approaching a point where a large number of firms in the small and mid-range are owned by individual owners or principal groups that are near retirement and don't have the ability to internally sell their shares or adequately achieve value for their ownership stakes without selling the company?

Gido: Yes, without a doubt. Many owners in our industry were born in the 1950s which makes them 57-67 today and in the prime position and need to monetize their ownership stakes. We see it all the time here at ROG — many successful owners and entrepreneurs just delay their exit planning (particularly when times are good like today) and get complacent as the years tick away. However, many are now ready to retire as home values and 401k portfolios have rebounded this decade. With a younger generation generally apathetic, or financially unable, to be involved in direct firm ownership, you have seen engineering and environmental firms either sell to larger players or go ESOP or other similar routes.

EBJ: That being said, do you believe it is fair to characterize the market today as a 'sellers' market' or do you think the balance is pretty equal between motivated buyers and motivated sellers in the industry?

Gido: Potential sellers commonly make the mistake of holding onto their firms too long, especially in good times when they really should think about selling their good financial performance, trends and backlog potential to interested suitors. Unfortunately, many emerge only when panic hits with a slowdown or internal crisis. So there have been fewer sellers today as many who wanted to sell internally or externally have done that and we'll need some other trigger to get others off the fence.

Buyers are motivated, have the capital, want to be in growing U.S. geographic markets where they are not, need the staff, and are attempting to find eager firms with leaders who will stay on to engage with.

EBJ: Do you think smaller or mid-size firms are increasingly developing their own M&A strategy? What is driving this and give some examples of firms that are taking advantage of what may be a gap in the market?

Gido: Yes, there are a select number of infrequent or first time buyers who are generally in the $10-$25 million revenue range that are looking to get into the M&A game often for geographic or market sector diversification as well. At that size they typically have reached the organizational infrastructure and administrative threshold to be able to carry through and integrate another niche firm, often one smaller or local that readily compliments their organization. In many cases these are typically "friendly competitor" deals where the parties know and respect one another and it's an easy asset purchase of clients, backlog and talent. In other cases, the buy vs. build calculus has moved to buy as the opportunity costs of building an office or just lack of good talent available is forcing their hand to be open to strategic and synergistic acquisitions. ◻

Potential sellers commonly make the mistake of holding on too long... especially in good times when they really should think about selling on their good financial performance, trends and backlog.

PSMJ CONSULTANTS SEE BROAD-BASED GROWTH IN THE MARKET: MORE CHALLENGES AHEAD IN OWNERSHIP TRANSITION AND SOURCING TALENT

*For more than 40 years **PSMJ Resources** has been a publishing, executive education, and advisory group devoted to improving the business performance of A/E/C organizations worldwide. PSMJ's expertise covers project management, financial management, human resources, business development, transition planning and mergers & acquisitions.*

Responses by Dave Burstein and John Doehring. John Doehring is Executive Leader of Advisory Services and Training at PSMJ Resources, Inc., and is responsible for the company's consulting and in-house training business. Prior to management consulting, John was Chief Marketing and Strategy Officer at Geologic Services Corp, and later GSC|Kleinfelder. Dave Burstein is a Director and Senior Consultant with PSMJ providing consulting and training on a wide range of management and leadership topics. Prior to joining PSMJ, Dave worked for 26 years at Parsons Corp.

EBJ: With all the consolidation in the industry you've seen over the last decade or so, how would you say the challenges have changed for the small or for the midsize company in the consulting engineering industry?

Burstein: Finding work has gotten easier. But finding people has gotten harder. And ownership transition has become a major challenge as more Boomers reach retirement age and want to sell their stock.

Doehring: Yes, there has been a considerable consolidation in the AEC space, with most big firms becoming ever bigger. But the number of organizations, and the mix of firm size in most discipline areas hasn't changed all that much. Low barriers to entry, and a general dissatisfaction with working in larger organizations means that a steady stream of newly minted firms will continue. Mid-size, regional players are very attractive acquisition targets for the big boys, but smaller firms grow into new mid-size firms as well. It's the cycle of life in the architect, engineering and consulting (AEC) industry.

Other changes, bigger changes — either here now or out on the horizon — will significantly effect, and even completely transform, the AEC space over the next 10-20 years. I described several of these changes (or shifts) in my book ***Fast Future, Ten Uber Trends Changing Everything in Business and Our World*** (Advantage Media 2015). Technology, information, globalization, markets, urbanization, diversity, longevity, climate, community – and change itself – these are things that small and mid-size companies must be aware of today.

The AEC market has been a largely profitable and stable sector for many decades, but I believe this will change a great deal in the years ahead. The successful firms of tomorrow will be those who commit forcefully to thinking and acting strategically, providing real differentiated value, hiring and taking care of the best and brightest individuals and teams, and running efficient and continuously-improving operations. Not just talk – but actual execution.

EBJ: What operational issues are companies struggling with most and how do you suggest they overcome them?

Burstein: Finding good people is the biggest operational issue. The old ways (newspaper ads) don't work anymore, so firms are experimenting with social media and other new ways to recruit.

Doehring: Too many AEC firms are still too reactionary – and way too slow to change. As a result, many operational issues are the same today as they were a decade (or two) ago. Two of these I label existential questions: 1) who will get the work today? and 2) who will run the firm tomorrow? Sustainable business development remains a crucial success issue (though busy firms often downplay the need for marketing while growing). And leadership transition (and the investments necessary to prepare next generation leaders) is lacking in 80% of the firms we see. Beyond these two, other core issues include capturing higher fees, managing projects for higher profitability, and getting paid in a reasonable time. And of course talent (getting the "people system" right) offers a myriad of challenges - and competitive opportunities.

EBJ: Recruiting and developing new talent has always been an issue in our industry. Do you think that challenge is more acute in 2017?

Burstein: Yes and it will be even more so in 2018 and beyond.

Doehring: Yes, we see the work of talent acquisition and retention as just as challenging now as it's ever been. Strangely, it feels today just as it did ten years ago – in 2007. Everyone wants to hire the super-talented senior project manager, with technical, client, and people skills – but no one can find him/her. Accelerated growth and increasing backlogs have returned in force, but economic uncertainty, aversion to risk, and caution with people investments has left most firms shorthanded and overstressed today. Moreover, we permanently lost a good deal of the professional talent in this industry through the recession, as engineers, scientists, and architects moved on to other jobs and careers. Most firms have made some progress in improving talent management (performance reviews, compensation systems, training offerings) but many remain under-invested in building the people systems necessary for stronger teams, cultures, and competitive advantage.

EBJ: John, I know you like to contrast the difference between planning and execution, so let me know specifically how your perspective on the strategic planning process has evolved over the last decade, and what do you think is an optimal or most logical schedule for companies of varying sizes in terms of 1-year plans, 2-year plans, 5-year plans, annual updates and some kind of schedule or planning/check-in cycle.

Doehring: An interesting question. One thing I've seen almost everywhere is that the firm's response to the recession – with respect to strategic planning - was almost always completely wrong. Business performance weakness, drained equity coffers, and the uncertainty of the road ahead - resulted in almost all organizations pressing pause on longer term planning during the first couple of years of the downturn. This made sense for a while, but holding one's breath only goes so far. Most companies carried on this lack of foresight for way too long. Planning was instead very short term, much more tactical, and quite risk averse. Today we're seeing a reaction to that, as many of our clients ask us to help them get back to true long range and vision-driven planning.

There is no question that in the AEC industry – and in business in general – that the primary path to failure with business planning is a lack of execution. Vision, strategy, concepts, and good ideas – turns out these are easier to dream up than they are to achieve. And you see this more and more in the business trade press today, the notion that 'execution is itself the strategy', or that 'getting things done' is the primary goal.

Five years is about the right planning horizon for an AEC strategic plan – long enough to change or grow in substantive ways, but not so long as to introduce unmanageable uncertainty into the base assumption set. Some firms do make the mistake of focusing too much on the tactics – without an appropriate strategic framework for context, and some firms instead make the opposite blunder of creating mission and vision without enough action mixed in. Our role as strategic advisors is to help clients get this balance right: A worthy vision which compels the organization forward, and a detailed action agenda that results in meaningful execution and achievement.

EBJ: How has your practice at PSMJ evolved in the last few years in terms of what kind of clients you serve and what kind of services you offer?

Burstein: We continue to see a lot of emphasis on PM training. But we are also seeing more demand for HR-related activities such as compensation analysis.

Prioritization of Major U.S. Architect Engineering Markets

Markets	Short-Term Prospects (-2 to +2)	Long-Term Prospects (-2 to +2)	Relative Profitability (-2 to +2)	Total Points (-6 to +6)
Housing	+2.0	+2.0	+2.0	+6.0
Govt. Buildings	+1.5	+1.5	+2.0	+5.0
Commercial	+1.5	+1.5	+1.5	+4.5
Water/Wastewater	+2.0	+1.5	+1.0	+4.5
Education	+1.5	+1.5	–	+3.0
Industrial	+1.0	+1.0	+1.0	+3.0
Transportation	+1.5	+2.0	–1.0	+2.5
Health Care	+1.5	+1.5	–1.0	+2.0
Environmental	+1.5	–	–	+1.5
Energy/Utilities	+1.0	+0.5	–0.5	+1.0

Source: PSMJ Resources, Quarterly Market Forecast Q3 2017

Doehring: Our strategy consulting practice at PSMJ has grown continually, as more prospective clients learn about our capabilities (PSMJ has long focused primarily on our training and publications businesses, and has rarely promoted advisory services). Meanwhile, the firm's ownership transition and M&A advisory services have grown very rapidly over the last few years – a function of both improved market visibility, and strong demand for help with exit strategy planning and execution.

We serve all types of clients — architects, engineers, environmental consultants, planners — and in all firm sizes. Our strategy is to offer solutions at a variety of price points (books, newsletters, surveys, seminars, and consulting) that meet the needs of each customer. Still, the majority of our clients are mid-sized firms, wrestling with the challenges of evolving from smaller, entrepreneurial practices to more sustainable, organized companies.

EBJ: Your recent Quarterly Market Forecast indicates fairly broad strength throughout the market. What does the forecast indicate are the top regional markets and the top client markets and why?

Burstein: I don't see much difference from region to region – all seem to be doing well. The table shows the relative strength of the buildings market, but also the general optimism surrounding the market.

EBJ: What do you believe are the strongest factors driving proposal activity in key sectors?

Burstein: Each sector has a different set of drivers. (This would take a pretty long explanation.)

Doehring: You know, each market segment has a story of its own, and the factors driving proposal activity are often unique, and nuanced. In the retail sector for instance, everyone can see that a big transformation is underway. It's difficult to imagine future shopping malls and big box retailers looking as they do today. That said, I've just recently finished working with a client who serves this retail sector, who is both busy and bullish about the future. He believes that retail will change, but it won't die.

Our research at PSMJ does suggest that most all of the AEC markets are ultimately tied (in one way or another) to the residential housing market. People move and buy homes, and this leads to many needs and opportunities — for schools, roads, water systems, shopping, and commercial space. Right now the housing market looks both strong and sustainable — at least for a while.

EBJ: What do you think have been some of the more important transactions in the Environmental Consulting and Engineering business, and what do you think they mean for the industry?

Burstein: The acquisitions of URS by AECOM and CH2M by Jacobs have created firms of a size hitherto unknown. We'll see how well these megafirms are able to perform.

Doehring: Acquisitions and mergers within the industry — particularly with the larger firms, are changing the AEC industry in some important ways. We regularly hear, for example, that very larger firms are competing today for public sector projects at very low overhead rates – utilizing their scale to provide really attractive pricing for clients. Meanwhile small and midsize firms struggle to meet this staff leverage.

Another common dynamic today — related to acquisition activity — is the relatively high (and perhaps growing) disengagement of professionals in large firms. While clients (and shareholders) usually reward these large companies for achieving scale, employees are often less enthusiastic, especially those who have come in by way of much smaller employers. These big firms are difficult to manage, and if they're growing fast through M&A activity they're probably struggling with integration, alignment, and cultural identity.

EBJ: Regarding ownership in Environmental Consulting and Engineering, do you believe we're at a tipping point where a large number of firms in the small and mid-range are owned by individual owners or principal groups that are near retirement and don't have the ability to internally sell their shares or adequately achieve value for their ownership stakes without selling a company?

Burstein: Yes. And many of them won't be able to find external buyers either. So they will be forced to sell their firm to existing employees at a fraction of theoretical value or just shut down.

Doehring: Yes, definitely. There are simply way too many small firms without fully developed succession plans, or a leadership pipeline that can support an internal transition. Demand for individual industry professionals is likely to remain strong for years; not so much the existing AEC firms themselves. Without clear answers to the questions of vision, growth, and leadership, many of these organizations will end up badly – even to closing the doors with the owner's retirement.

Nor is an external sale a given – particularly at an attractive price. External buyers want the same things as internal buyers: a good value, competitive organization, and sustainable business. In a market with numerous acquisition possibilities, buyers can be selective. They won't pay top dollar for fixer-uppers.

EBJ: That being said, do you believe it is fair to characterize the market today as its 'sellers' market' or do you think the balance is pretty equal between motivated buyers and motivated sellers in the industry?

Burstein: It's definitely a buyer's market.

Doehring: No, we really see the market today as strong for buyers. That said, a well-run firm, with a good client base, differentiated offering, and strong professional team can and will draw the interest of prospective buyers, and at a fair market price. So the market is today really quite good both for buyers and sellers. ☐

In a market with numerous acquisition possibilities, buyers can be selective...They won't pay top dollar for fixer-uppers.

THE M&A MARKET: WHAT'S HOT, NEW CALCULATIONS AND GETTING DEALS DONE

The following review was writen by Al Spiers, Founder and CEO of ***2020 Environmental Group****, a management consulting and M&A advisory firm focused purely on the environmental industry. With offices in San Francisco and Seattle, Al and his 2020 partners work with CEOs, Founder/Owners, Boards and Private Equity investors advising on strategic growth for entering new markets and geographies, financial and operational performance, ownership transition, and sell- and buy-side M&A. In the last seven years, Al has advised over 65 environmental and E&C firms across North America, Canada, UK, Europe, China and Australia, and served as the sell- or buy-side M&A advisor on 20 M&A transactions. Prior to 2020, Al spent 38 years managing and building some of the largest environmental and engineering firms in the world including Ogden, Dames & Moore/URS and Entrix. Al holds a B.S. in Biology/Chemistry and an M.S. in Environmental Engineering from Stanford University. He also attended Stanford Graduate School of Business Executive Management Programs. He sits on the Board of Directors of Environmental Science Associates (ESA).*

Industry surveys are reporting 2017 M&A valuations for environmental consulting and engineering (C&E) firms at 10-year highs, citing record breaking P/E ratios and valuations of publicly traded companies, a demand from buyers to grow through M&A, and a shortage of companies available for acquisitions.

From the number of buyers and sellers that we talk to, what buyers are looking for in an acquisition varies widely depending on geographic location and local market drivers.

Without over-generalizing, here is what's hot in today's M&A market:

- California infrastructure, transportation, real estate and water resource markets;
- Pacific Northwest redevelopment and contaminated sediments;
- Florida and Gulf Coast natural resources and restoration ecology;
- Texas air quality and a slow resurgence of oil and gas;
- Mid-west remediation and contaminated sediments in waterways;
- Northeast waterfront development and water resources;
- Building Sciences in urban centers around the country.

With high valuations and a demand for high quality environmental firms in many geographies, this would seem to be good news for the M&A market. However, to the surprise of many including us, the first half of 2017 actually saw a decline in M&A deals in the environmental C&E sector.

Engineering News Record (ENR) reported a double-digit falloff in M&A activity, to the lowest level since 2013 and the sharpest decline rate since the recession. M&A reports for 2017 show M&A deals falling off by 18% versus 2016. To be clear, deals are getting done at all levels as reported by 2020 Environmental Group and other industry M&A advisors. Just not at the higher volumes we saw in 2015 when valuations were lower.

So, what are we to make of this disparity in the market? Will the trend continue? Thinking about this reminded me of one of my favorite Joni Mitchell songs, Both Sides Now, because clearly there are two sides to this story.

On one side, many sellers are sitting on the fence, first citing uncertainty around the 2016 election, and then playing 'what if' with interest rates and the timing of new tax bill. Among companies hit by the downturn in the oil and gas in 2015-2016, there is now a hoped for return to a new normal. For those companies in the current hot markets of infrastructure, transportation, water and real estate development, many have decided to ride this wave a while longer.

There is also the issue of company owners who are nearing retirement but avoiding the topic of ownership transition. When asked about internal ownership transition plans, most say their employees have no interest in ownership, or do not have the financial resources and risk profile for this commitment. When asked if they are prepared to consider a sale to an external buyer, the answer is often "sure, for an off-the-charts multiple."

Buyers offer the other side of this story. Interestingly many traditional larger company buyers decided to take a time out on M&A to allow for the integration of deals already made, or are becoming much more strategic in pursuing acquisitions that a perfect fit with their growth plans.

We are also seeing a number of smaller to mid-size companies ($8-20 million in revenue) deciding that they too can play in the M&A game, particularly with the trove of micro-small companies for sale.

So will these high M&A valuations last? 2020's industry database continues to point to a pipeline of 750+ smaller environmental firms across the U.S. who are baby-boomer owned, and eventually need to make the decision to sell internally to their employees or externally to a strategic buyer.

Sellers who are weighing their options may decide that now is the right time to go to market and benefit from the current high valuations. Looking further out, should we see signs of an economic recession (speculated for late-2018), or a drop off in the current hot markets for environmental services, companies who thought about staying the course could find themselves in an M&A market downturn similar to 2013. ◻

Many sellers are sitting on the fence... citing uncertainty stemming from the 2016 election, and playing 'what if' with interest rates and the timing of a new tax bill.

2020 ENVIRONMENTAL SEES MORE M&As IN THE FUTURE, BUT DEALS WILL BE HARDER TO DO

*Q&A with Al Spiers, Founder and CEO of **2020 Environmental Group**, a management consulting and M&A advisory firm focused on the environmental industry with offices in San Francisco and Seattle (see previous page for detailed profile).*

EBJ: With all the consolidation in the industry you've seen over the last decade or more, how would you say the challenges have changed for the small or for the mid-size company in the consulting engineering industry?

Spiers: Contrary to common belief, consolidation has not hurt smaller and mid-size environmental C&E firms ($10-$50m in rev), and in the last two years most have out-performed the larger $B firms, exceeding industry averages with organic growth rates and profit margins of 8-12% respectively. Consolidation has created a "gap in the middle" with many of the mid-sized firms acquired in the last ten years. But that gap has actually helped smaller size companies (who have an entrepreneurial spirit) to move into the middle market space.

Also, because roughly 75% of all environmental C&E contract values fall between a $250k and $2.5 million (on an annual basis), smaller firms can be as competitive as the global consolidators. That said, the challenges many smaller firms face is the aging of baby-boomer owners who have no second tier leadership and no ownership succession plans in place. Which means the firms will eventually hit a plateau, or have problems being competitive in the future.

EBJ: Data indicates that internal growth is substantially higher in small and mid-sized firms. Do you find this is true and what client sectors or client preferences are driving this?

Spiers: Yes, as mentioned above, internal (organic) growth in smaller to mid-size firms has significantly out-paced the large C&E firms. In fact, many of the mega-large C&E firms have seen flat or negative organic growth in the last two years. Small to mid-sized firms are benefitting due primarily to having a strong regional market presence, close-to-the-client relationships, and high quality specialty expertise. Examples of market sectors that are benefiting smaller firms include: environmental planning and permitting for infrastructure, transportation and water markets in California; building sciences (indoor environmental quality) services to the commercial real estate industry; restoration ecology on the Gulf Coast; contaminated sediments and remediation expertise for water-front development projects in the Pacific Northwest; and brownfields redevelopment in the Northeast.

EBJ: What operational issues are companies struggling with most and how do you suggest they overcome them?

Spiers: Typical operational issues can include (a) internal organizational bottlenecks (i.e., having a practice leader that is great at winning work but refuses to hire and grow); and (b) a company culture that has a "why grow" lifestyle versus a culture that promotes growth and higher profit margins. Overcoming these types of challenges requires strong leadership at the top who is willing to make changes, even at the expense of culture.

EBJ: What growth challenges are companies struggling with most and how do you suggest they approach them?

Spiers: When it comes to growth, the issue most companies struggle with is "strategic focus." Companies start out building a business based on what they do best, but eventually expand into practice areas that they are not that good at, or geographies where they do not have the critical mass to compete. Trying to be everything to everybody everywhere (i.e., "full service") doesn't always work. Having growth initiatives into new markets and geographies is always good, but that also means being able to make the tough decision to get out of a market when it is not performing.

EBJ: Recruiting and developing new talent has always been an issue in our industry. Do you think that challenge is more acute in 2017?

Spiers: Yes and no. Yes from a standpoint that finding and retaining good talent is always tough. But also, there are new opportunities on the recruiting front opening up due to the recent consolidation in the mega global firms. In these cases, talent is stepping out and moving back to smaller and mid-size firms where they can make an impact.

EBJ: What do you think have been some of the most important M&A transactions in the environmental consulting and engineering business in the last 12 months or so and what do you think they mean for the industry?

Spiers: Clearly the sale of CH2M, which for many including me, CH epitomized global leadership in the environmental industry. But also, I have to ask what this portends for the future of our environmental industry, and ask the hard question of whether the environmental industry, as we know it, is best suited in large, billion-dollar, global design and engineering firms? My short answer is: I don't think so, and with these mega-consolidations, we will find more movement of environmental C&E resources moving back into smaller to mid-size firms.

EBJ: Regarding ownership in the environmental consulting and engineering business, do you believe we're approaching a point where a large number of firms in the small and mid-range are owned by individual owners or principal groups that are near retirement and don't have the ability to internally sell their shares or adequately achieve value for their ownership stakes without selling the company?

Spiers: Most definitely this is true, and based on our data of the environmental industry, more than 2,500 or 80% of all small environmental firms in the U.S. are in this situation. But what is even more surprising is many owners nearing retirement (or already past the age) do not have ownership succession plan or exit strategy, and are not prepared for an M&A sale.

Which means that many company owners (and their employees) will be unpleasantly surprised when they find out they are unable to sell their firm, even for a lower price. Aging principals nearing retirement is even an issue in ESOP companies, causing some companies to be facing steep ESOP payouts in the next few years, which will put additional pressure on future profits and cash flow.

EBJ: That being said, do you believe it is fair to characterize the M&A market today as a 'sellers' market' or do you think the balance is pretty equal between motivated buyers and motivated sellers in the industry.

Spiers: Even though there is a growing number of small companies coming up for sale (or considering selling), and a demand for high quality acquisitions by buyers, I think the market will remain balanced between the buyers and sellers. Buyers, on one hand, have become more strategic and selective in what they buy and how much they pay. On the other side, sellers are generally unprepared when it comes to the process of selling their company, and have unrealistically high expectations for its market value. Which means, getting deals done will be more difficult.

EBJ: You mentioned that smaller mid-size firms are increasingly 'playing the M&A game'. What is driving this and give some examples of firms that are taking advantage of this gap in the market?

Spiers: Yes, the M&A game is no longer just for the big boys. Smaller and mid-size firms in the $15-50 million annual revenue range) have now realized they too can play, and can be as competitive as the larger more experienced firms.

Part of what is driving this is smaller M&A buyers having access to M&A advisory firms like 2020, who can help them understand the M&A process, identify acquisitions that are a good match for their growth strategy, and who can help run the process. Acquisitions can be a very time-consuming and distracting process, and con divert senior management attention from regular operational issues. Also, banks are more willing to support small-scale M&A transactions with special lines of credit. The larger players also have increased their threshold of companies they will look at to some extent, creating opportunity for smaller or mid-sized buyers.And finally, small to mid-size buyers are more likely to have a cultural fit with small sellers, amking integration and success rates easier for both sides.

Recent examples of smaller to mid-size firms as M&A buyers, and transactions that 2020 served as the M&A advisors, include: **Ensafe**'s acquisition of E2 Managetech's Environmental Division; **RPS Group** acquisition of **Iris Environmental**; **PBS Engineering** acquisition of **HDJ Design Group**; **Terratherm**'s acquisition of **Current Environmental Solutions**; **EcoAnalyst'**s acquisition of **Ecologists Specialists**; **Cascade Environmental**'s acquisition of **Vironex**; and **ESA's** acquisitions of **Scheda Ecological Associates** and **PCR**. ☐

MORRISSEY SEES ENTRY EASIER FOR SMALL COMPANIES BUT GROWTH AND M&A HARDER

Morrissey Goodale *is a specialized management consulting and research firm exclusively serving the architecture, engineering, and environmental consulting industries. Responses by Mick Morrissey, Managing Principal. For over twenty years, Mick has been advising architecture, engineering, planning and environmental consulting firms. Prior to co-founding Morrissey Goodale LLC, Mick served as Director of Strategic Growth for C&E firm PBS&J.*

EBJ: With all the consolidation in the industry you've seen over the last decade or more, how would you say the challenges have changed for the small or for the mid-size company in the consulting engineering industry?

Mick Morrissey: Over the past decade—let's say through the recovery—the challenges for small and mid-sized firms have shifted: It has become easier for small or mid-sized firms to start, and grow and prosper. Capital is cheap. Start up costs are minimal. Technology allows firms to be dramatically more efficient than in the past – so need relatively less people to deliver work. And with less overhead they have a pricing advantage. However, over the last 10 years, small and mid-sized firms have found it increasingly harder to transition ownership and/or leadership due to the investment and career preferences of GenX and millennials. This latter challenge is even more acute for smaller firms. The median seller in 2016 had revenues of $4 million – up from $3 million in 2015. Smaller firms are being shut out of the M&A market.

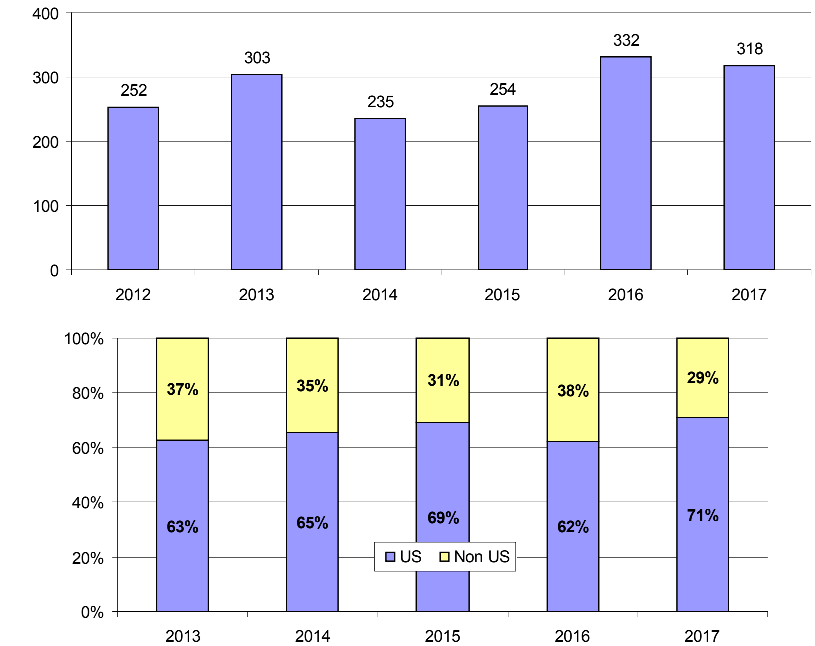
EBJ: Data indicates that internal growth is substantially higher in small and mid-sized firms. Do you find this is true and what client sectors or client preferences are driving this.

Morrissey: Yes. One big client account or one big project can make a dramatic difference in the fortunes of a small or mid-size firm. We see it all the time. The issue is that this growth is typically not sustainable and firm's don't plan for what happens after the big project or account ends. We call this the "Walmart" effect – big client account is onboarded – stays for 1 to 3 years – then goes away. We see this in virtually every sector. Typically driven by a client need to role out new stores, or do a clean-up, or build a new facility ***really*** quickly.

EBJ: What do you think have been some of the more important transactions in the environmental consulting & engineering business in the last 12 months or so and what do you think they mean for the industry?

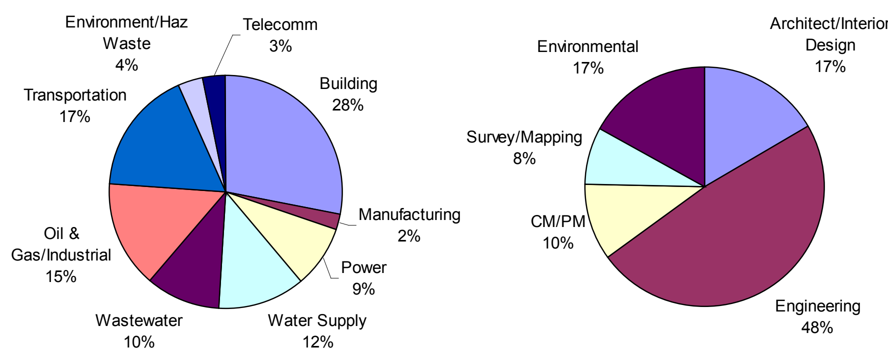
Morrissey: The headline grabbers are the Jacobs & CH2M, and the Wood Group & AMEC Foster Wheeler deals. They speak to the continued massive consolidation in the industry. However, it's deals like the minority recapitalization of **Woolpert** by **Long Point Capital** and the creation of 1,000 person PM/CM firm **Atlas Technical Services** through the acquisition of three firms by **Bernard Capital** that I think are the big story this year. They speak to the growing influence of private equity in our industry.

Global M&A Transactions in A E CM/PM and EC in 2012-2017



Source: Morrissey Goodale; 2017 data through December 7, 2017; Includes architecture, engineering, construction/program management and environmental consulting deals.

Global M&A Transactions in 2017 by Sector and by Service



Source: Morrissey Goodale; 2017 data through the end of September, 2017.

EBJ: What interesting observations can you make about specific deals you may have worked on?

Morrissey: Smart, sophisticated buyers – including many publics and PE-backed entities – typically move very quickly and professionally through the deal process and have a close to 100% hit rate once they sign a letter of intent.

First time buyers and or many employee-owned buyers tend to be slower, more risk averse and have closer to a 50% hit rate on their LOIs.

Smart buyers in the environmental and infrastructure space are looking more and more for acquisitions that bring a technology or software or data-management set of capabilities rather than traditional fee for service offerings.

EBJ: Regarding ownership in the environmental consulting & engineering business, do you believe we're approaching a point where a large number of firms in the small and mid-range are owned by individual owners or principal groups that are near retirement and don't have the ability to internally sell their shares or adequately achieve value for their ownership stakes without selling the company?

Morrissey: I believe we are beyond the tipping point here. The choices going forward for most firms will be sell or ESOP. And for those who choose to sell there is between a 10% and 15% chance it will be to a private equity backed firm and a similar chance it will be to a publicly traded firm.

EBJ: That being said, do you believe it is fair to characterize the market today as a 'buyers' market' or do you think the balance is pretty equal between motivated buyers and motivated sellers in the industry.

Morrissey: In general I believe we are in a buyers market. Industry M&A peaked in 2015, declined in 2016 and will still be down from that peak in 2017 (although the pace has picked up somewhat from 2016). So M&A activity is down – and our data shows that M&A upper quartile multiple have declined since 2015 and median multiples are flat. In general we see two-tier market. Firms that are specialized or in hot regions– like Texas or the Southeast– are seeing a lot of demand premiums. Firms that are not differentiated or are in geographies that are not thriving are seeing weaker demand and downward pressure on prices.

EBJ: Do you think smaller or mid-size firms are increasingly developing thier own M&A strategy? What is driving this and give some examples of firms that are taking advantage of what may be a gap in the market?

Morrissey: I see lots of talk about mid-size and smaller buyers. I look at lots of strategic plans for mid-size and small firms that have sections dedicated to growth through M&A. However, we rarely if ever see a well thought out and well executed strategy. The strategies that we see are largely "me too" and not unique. The execution is typically limited to a lack of an internal champion who can be freed up to pursue acquisitions, a lack of ability to integrate successfully, and a lack of capital to do more than one deal every 2 years. ☐

EFCG 2017 SURVEY DATA INDICATES INCREASED CHALLENGES FOR THE BIGGEST FIRMS; CONTINUED HIGH ACTIVITY IN M&A

Environmental Financial Consulting Group *(EFCG) conducts a detailed annual CEO survey of environmental and infrastructure engineering/consulting companies every year in advance of its October CEO conference. Below are some of the 2017 results and comments by the EFCG team of Andrej Avelini and Joe Smetona. EFCG offers financial and strategic advisory, benchmarking and valuation services, annual C-level executive conferences, internal ownership transition advice, and buy-side and sell-side M&A services.*

2017 EFCG Survey Respondents

Ownership	# of Firms	% of Firms	% of Revenue
Public	18	8%	59%
PE	17	7%	7%
ESOP	62	27%	14%
Non-ESOP	133	58%	20%

Source: EFCG October 2017 CEO Survey.

EBJ: With your median growth response almost settling in to the 4% to 6% annual rate from 2011 to 2017 in your data you suggest a 'new normal'. Do you think that this means the AEC industry is less prone to cycles more integrated into the economy as a whole? Or is it perhaps that the cycles have just evened each other out for the past seven years? Or what other factors do you believe led to the relative level of stability?

EFCG: The median internal growth rate for 2016 came in at 4.0%, which was noticeably lower than the 5.6% that was projected at last year's CEO Conference (October 2016). However, the median internal growth is projected to increase to 6.0% in 2017, and 7.0% in 2018. Backlog is up 10% over the last year, so the projections appear potentially more realistic. For historical context, the median internal growth rate has averaged 6.7% since 1996, but has hovered between 4%-6% since 2010 (it was 0% in 2009), which is a marked slowdown from pre-recession median internal growth of 10%+ (2004-2008 average).

EBJ: Separately your Weighted Average growth shows a notable negative separation from the median since 2009, and 2016 as the first negative year for the industry in 23 years! Presumably this is driven by the largest firms but is this a concern for the industry?

EFCG: The weighted average internal growth (each firm's internal growth weighted by its revenues) came in at -1.7% in 2016, but is projected to rise to 1.8% in 2017, and 6.4% in 2018, which is consistent with the historical average of 6.4% since 1996.

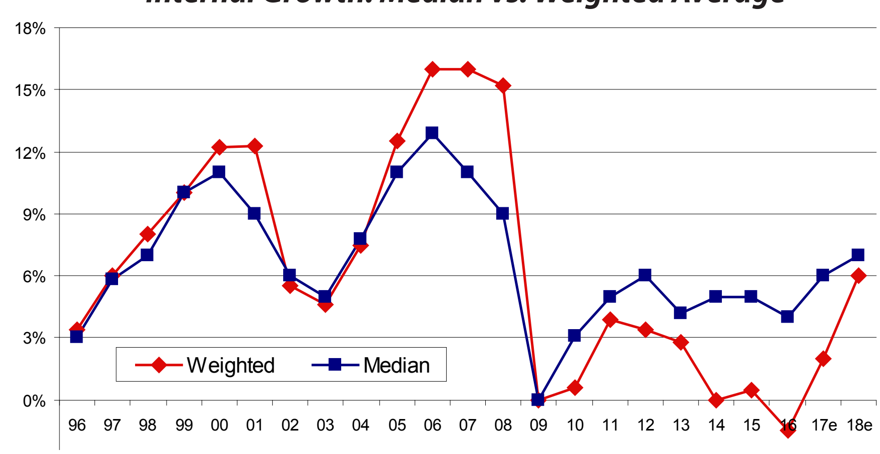
2016 was the first weighted average negative growth year since we began tracking the industry in 1992, as many of the largest firms (e.g. AECOM at $18B out of $112B) had negative internal growth. Nonetheless, about 80% of the 230 firms attending our conference still had positive internal growth in 2016. The weighted average internal growth rate is probably a better representation of the broader "industry" growth, while the median internal growth rate is probably a better benchmark for the vast majority of firms.

We are not sure what caused a/e/c growth to dip below US GDP growth since the recession, but we have a few hypotheses. First, the largest firms are relying on acquisitive growth, as evidenced by a number of the mega mergers this year (e.g. SNC / Atkins, Jacobs / CH2M, Wood Group / Amec). Second, the ~40% of revenues outside the US are generally coming from markets that having been struggling to grow in recent years (e.g. Europe, UK and Australia). Third, the slowdown in the energy markets, which began in 2014, has had an outsized impact on this industry, and correlates with the strong decline in the a/e/c weighted average growth relative to GDP from 2014-2016. Finally, the lack of US public infrastructure funding at both the state / local and federal levels has been an industry headwind. CEOs remain hopeful that the Trump administration will pass a major infrastructure funding bill, but the administration's inability to pass major legislation thus far does not augur well (although corporate tax cuts appear to be moving forward).

EBJ: In your 2017 Survey presentation you mention the challenge of industry definition and that the data is "noisy": what do you mean by that?

EFCG: We think it's difficult to select the universe of a/e/c firms because there are a number of firms that provide a/e/c services (i.e. architecture, engineering and consulting services), but also provide other services, including construction. Should they be included in the universe of a/e/c firms, and if so, where do you draw the

Internal Growth: Median vs. Weighted Average



Source: EFCG annual surveys. Weighted average accounts for size of the respondent in annual revenues and therefore reflects more accurately the larger firms or the entire industry.

line? What if a firm generates 50% of its revenues from construction and 50% from more traditional a/e/c services – is it a construction or a/e/c firm (e.g. AECOM)? And what about self-perform contracting vs construction management? The universe of a/e/c firms also depends upon which geographies you consider (e.g. North American vs. "Western" world, vs. Global). Depending upon how one selects the universe of a/e/c firms, observations about consolidation vary, so we want this data to be interpreted with caution.

EBJ: Whereas EFCG may count the A/E/C industry as $112 billion and EBJ may count the environmental consulting & engineering industry as $30 billion, in the end we find that almost every firm ultimately defines their own game board or their own market size that they are targeting or trying to demonstrate share in. Do you agree and is there any real argument for uniformity of industry definition?

EFCG: We realize that it is difficult to agree on an exact market size, due to differing definitions of the a/e/c industry (by the way, most of our data is "engineering/consulting", with little "architecture" (only 3% of the $112B) since we don't have the big architecture firms attending (Gensler, HOK, SOM, NBBJ etc.). But, we think the big difference between the EFCG market size and the EBJ market size is that we include ALL engineering & consulting revenues (environmental, water / wastewater, transportation, building, energy, power, etc.), not just environmental engineering & consulting revenues, like EBJ. If you include water / wastewater as part of environmental, the EFCG environmental sector would be roughly the same size as EBJ ($28B for EFCG vs. $30B for EBJ).

EBJ: Tracking annual merger and acquisition activity shows 2014 and 2017 as major outstanding years in terms of dollars of revenue acquired in transactions. We assume market factors had little to do with this, and that these bursts of big-deal activity are driven more by strategic reasons. Do you agree?

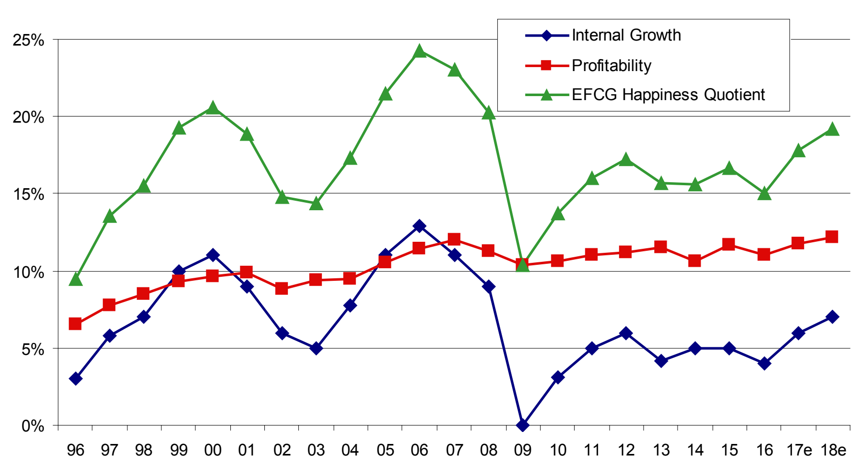
EFCG: We think each deal has its own story, but ultimately, there have been very strong M&A tailwinds over the last few

Best & Worst Sectors: EFCG Annual Surveys 2012-2017

	2017 Rank	2016 Rank	2015 Rank	2014 Rank	2013 Rank	2012 Rank
Transport/infrastructure	1	1	2	4	5	9
Water/wastewater	2	2	1	2	2	2
Healthcare/pharma	3	8	6	5	9	11
Power	4	3	3	3	3	4
Sustainability/Resiliency	5	12	13	14	15	8
CM/PM	6	15	12	12	13	17
Technology	7	na	na	na	na	na
Renewable/Clean Energy	8	4	na	na	na	na
P3	9	11	10	10	11	13
Ind'l/com'l development	10	17	16	8	6	3
Res'l/land development	11	6	8	17	18	21
Private customer	12	7	5	7	7	10
Municipal	16	18	17	19	20	20
Environmental	17	5	4	6	4	5
Buildings	18	9	9	18	19	18
Remediation	19	16	14	15	17	6
Nat'l Resources/Mining	20	19	20	16	12	15
Federal	21	20	19	20	21	19
Energy/Oil & Gas	22	21	18	1	1	1
Air	na	10	7	9	8	7
Construction	na	13	15	13	16	12
Design/Build	na	14	11	11	10	14

Source: Environmental Financial Consulting Group, EFCG CEO Surveys 2012-17 in October; Respondents select Best and Worst sector and sectors are ranked by a sum of best votes minus worst votes.

EFCG's Happiness Quotient: Internal Growth + Profitability



Source: EFCG annual surveys. Internal Growth is median growth for all respondents and not weighted growth; Profitability is EBIBT/Net Revevues; HQ is the sum of Internal Growth and Profitability.

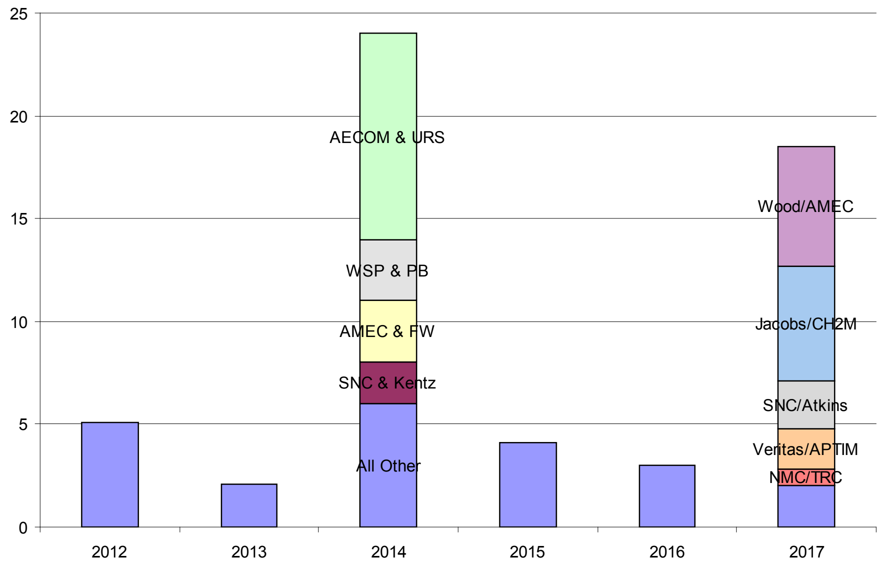
years. The large strategic buyers (most of which are publicly-traded) have been struggling to grow internally, so they have been relying on acquisitions to satisfy their investors' expectations for growth. At the same time, the high public markets valuations and low interest rates have made it easier for them to finance acquisitions. Finally, internal ownership transition remains a salient challenge, so there is a constant supply of firms who are struggling to finance their internal ownership transition, and the high valuations that are being offered are helping to convince some of them to sell now. Was there anything special about 2014 & 2017? We are not sure. It's also important to remember that there were still some sizable transactions that occurred between 2014 & 2017, including MWH's sale to Stantec.

EBJ: The big deals could be viewed as ownership issues of larger companies needing to sell for their shareholders or investors as one reason. Another factor seems to be the integration or the digestion of acquisitions led to a bit of a lull as two. A third may be that a spate of activity may lead to a 'competitive response' in other large players to keep up with the competition so to speak? Comment on these factors and perhaps any others causing the spike in 2014 and 2017. And will the phenomenon continue in 2020?

EFCG: As we mentioned above, internal ownership transition remains a salient issue, but we don't think there was necessarily anything unique about 2014 & 2017. We agree that it typically takes a few years to integrate major acquisitions, which can lead to a "digestion" period, but what's interesting is that the major buyers in 2014 (AECOM, WSP, Amec, and SNC) were different from those in 2017 (Jacobs, Wood Group, SNC), with the exception of SNC (acquired Kentz in 2014, and Atkins in 2017). Finally, there may be a psychological / competitive element that is driving some of this, but I think the drivers mentioned in the paragraph above are more important.

EBJ: I noticed an interesting parallel in your data on 2017 EFCG Survey respondents where the number of private equity firms is 7% (or 17 out of 230),

M&A Activity by $ Billion of Revenue Acquired: 2012-2017



Source: EFCG based on activity of 230 firms in EFCG survey and conference attendee group.

Success of M&A Deals Over Previous Five Years

	# of Firms	# of Deals	Successful	Marginally Successful	Poor
>1 Billion	22	233	161	47	25
250 - 1 Billion	30	123	80	30	13
100 - 250 Million	46	108	72	26	10
25 - 100 Million	48	42	31	8	3
10 - 25 Million	29	15	7	6	2
<10 Million	49	7	5	2	0
Total	224	528	356	119	53
Percentage			67%	23%	10%

Source: Environmental Financial Consulting Group; 2016 CEO Opinion Poll.

Top 3 M&A "Success" Factors

#1 Success Factor	*#2 Success Factor*	*#3 Success Factor*
Cultural Fit (48)	Strategic Fit/Synergies (31)	Strategic Fit/Synergies (27)
Strategic Fit/Synergies (18)	Cultural Fit (21)	Integration (17)
Mgmt. Retention (10)	Mgmt. Retention (8)	Cultural Fit (13)
Integration (8)	Integration (7)	Price (8)
People (6)	Mgmt. Strength (7)	Communication (5)
Price (5)	Financial Performance (5)	Mgmt. Strength (5)
Financial Performance (3)	People (3)	Due Diligence (5)
Due Diligence (2)	Due Diligence (2)	Mgmt. Retention (4)
ROI (2)		Clients (4)
		People (2)
		Financial Performance (2)

Source: EFCG 2017 Survey (# of votes).

but also the total revenues of PE-owned firms is also 7%. Does this imply that PE is a logical 'stepping stone' from private to public? How has the role of PE in the industry changed in the last decade? And how has the role PE firms play in each firm evolved?

EFCG: In theory, private equity can be a stepping stone from employee-ownership to public-ownership, but we haven't seen that happen recently, as most private equity investors have exited their investments in this industry by selling their stakes to other private equity firms or strategic buyers. Ultimately, it is very difficult for an a/e/c firm to be publicly-traded company unless it is very large (i.e. a couple billion of revenue or more), because it is difficult to attract enough investors to provide sufficient liquidity in the stock, and it is also difficult to get the analyst coverage required to attract large institutional investors (one exception has been NV5).

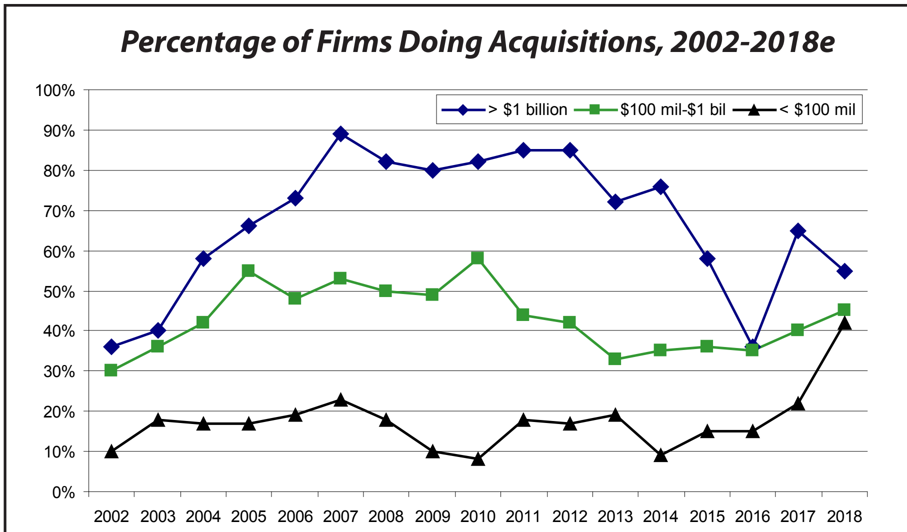
Over the last few years, the number of publicly-traded firms has declined significantly due to M&A between public companies (e.g. AECOM / URS, Wood Group / Amec FW, etc), "going private" transactions (e.g. New Mountain Capital taking TRC private this year: EFCG advised New Mountain), and a lack of IPOs.

EBJ: Given that there are 17 PE-owned firms how many of those are likely to go public and is that a realistic exit avenue for some, many, or all of the investor groups?

EFCG: As mentioned above, our guess is that few if any will be going public anytime soon, since most of them are simply too small. **ICF** is the only firm we can think of that went from PE to IPO in the last decade.

EBJ: I assume in most of the private-equity owned firms there is still a substantial or at least significant ownership stake amongst the principals or management or even employees? Is there a pattern to how that is structured and what seems to be the prevailing method for private equity firms to keep the senior management and then employees engaged?

EFCG: Almost all private equity firms require management to roll over a significant portion of their equity (typically 20% - 40%) to align financial interests and ensure that management will be incentivized throughout the duration of the investment. In general, private equity firms don't allow management to sell the shares they rolled over till the private equity firm exists the investment. We have also seen minority private equity investments, wherein management retains a majority equity stake; for example, we just advised Woolpert on its sale of a minority equity stake to Long Point Capital (see box on page 43 for more discussion). **SLR** in the UK is another firm with a minority PE (3i).



Source: Environmental Financial Consulting Group annual surveys.

EBJ: Are we still seeing brand new private equity investor interest and entry into the industry? And are the characteristics that attract their investment to our industry any different, or is it that the traditional sectors in which they may have focused more on have become less appealing in some way?

EFCG: We are seeing a lot of interest from private equity investors (new ones and others who have been hunting for an investment in our industry for a while), who are attracted to the industry's track record of consistent growth, and the strong growth prospects in light of the pressing infrastructure and environmental needs, and valuations in our industry that we are hearing are well below other industries (i.e. cheaper to buy in).

EBJ: Your data showing the Top 3 Firms share going from 27% in 2000 to 38% in 2017, and Top 10 Private Firms falling from 33% to 19% share is intriguing. We have to assume this continuing is inevitable don't we? Or do the growth issues discussed above and the challenges of being a large player in our industry likely limit the share the top public firms will take?

EFCG: For perspective on this, look at the recent history of **CH2M**. For many years, CH2M was the largest (and arguably most admired) employee-owned a/e/c firm in the world. CH2M was an example of what employee-ownership could achieve, including: employee engagement and fulfillment, employee wealth creation (i.e. reaping the fruits of one's labor), client satisfaction, and ultimately the development of sustainable public infrastructure, which we believe is critical to the well-being of society. CH2M's decision to sell, while providing a 40% premium for its shareholders, is cause for reflection, particularly since many of the largest employee-owned firms have recently "sold-out" to publicly-traded firms (e.g. MWH / Stantec, Parsons Brinckerhoff / Balfour Beatty, etc.). As a result, the revenue market share of the 10 largest employee-owned a/e/c firms has declined from 33% in 2000, to 19% today.

EFCG continues to believe that there are cultural advantages to employee ownership, and that employee-owned firms will remain an important part of the a/e/c industry landscape. However, employee-owned firms (particularly large ones) face salient challenges, and need superior financial performance to transition ownership internally.

For many years, CH2M was able to grow both organically and via acquisitions, which led to increased earnings, and ultimately stock price appreciation of ~16% per year from 2000-2013. In addition, CH2M had an internal market for its stock, which allowed employees to buy and sell shares from one another each quarter for any reason, at a price determined by CH2M's Board, based on a formula and in conjunction with quarterly "fair market value" assessments provided by an outside appraiser. As a result of the attractive returns and liquidity, there was demand for the stock to facilitate ownership transition.

In 2014, CH2M reported a $341 million loss caused primarily by losses on fixed-price EPC power contracts. Partially as a result, the stock price declined, and internal demand for the stock dried up, leading CH2M to take on a $300 million preferred equity investment from the private equity firm **Apollo Global Managemen**t to strengthen its balance sheet. Historically, CH2M, like most design firms, took on little if any construction risk, and probably never developed the institutional risk-management knowledge that large, experienced contractors have. Further, taking on fixed-price construction risk requires a balance sheet and/or profitability which is strong enough to withstand potential losses.

Unfortunately, after Apollo's investment, CH2M suffered additional losses from EPC contracts, and it became clear that CH2M would not have the capital to repurchase Apollo's stake, particularly since Apollo's investment came with a 5% PIK (paid-in-kind) dividend, which meant its stake would increase by 5% every year until a liquidity event. Moreover, demand for the stock never came back, and CH2M did not have the capital to "make the market," and therefore suspended share redemptions. Faced with a lack of capital, CH2M was essentially forced to sell the firm. While the sale to Jacobs certainly came as a disappointment to many of CH2M's employees, it will provide an attractive return (40% premium) to the shareholders (both the employee-shareholders and Apollo), access to capital, and greater employee opportunities for growth.

EBJ: Your data shows Total Turnover leveling off around 10-11% since 2010, although increasing a bit in 2016 and 2017. How does this vary by size of company? We assume it is harder for the largest firms to retain employees?

EFCG: See the chart below for EFCG's recent survey data on turnover. Turnover (both voluntary and involuntary) increases with firm size, and the $1B+ revenue firms have substantially higher voluntary and involuntary turnover than all other sized firms. Ditto for public firms vs. private firms. This has been a pretty consistent trend for some time.

We believe there is higher voluntary turnover at larger firms because many engineers don't like the more bureaucratic environments that typically come with greater size, and often prefer working at smaller firms where they feel they can more easily focus on their technical work and have more of an impact. Also, engineers don't love the public company environment due to higher pressures on financial performance, in general, than at private firms (abit of a cliché in our view, though but there is something to it). The most interesting part of the table is where we show that public or private ownership makes a difference since we are only comparing $1B+ firms here (i.e. control for size).

We believe there is much higher involuntary turnover (voluntary turnover does not show nearly as much of a differential) at the larger public firms because they are more likely to be making acquisitions, which often lead to layoffs of redundant staff (euphemistically referred to as "cost synergies")—think of the amount of overlap in the AECOM/URS deal. There is also more voluntary turnover as the chart suggests, but not nearly as much of a differential.

EBJ: Also, you note the delta between involuntary and voluntary, where involuntary turnover decreases with relative strength in the market, but voluntary turnover has been fueling the recent uptick to 11.5%, or 8.5% for voluntary and 3% for involuntary. Involuntary is up likely from dealing with M&A redundancies you note, but how do you think new generations and less loyalty to companies comes in?

EFCG: We think the increase in voluntary turnover has less to do with generational differences, and more to do with economic cycles. As you can see on the chart, voluntary turnover decreased sharply during the last two recessions, since there were fewer opportunities available for employees to leave for. However, the economy (and this industry) has been growing steadily since 2009, so there are more opportunities for employees to leave for, which we think explains the higher voluntary turnover. ☐

Turnover Analysis by Firm Size: 2017

Company Revenue Size	Voluntary	Involuntary	Overall
>1 Billion	10.3%	5.3%	15.6%
Publicly-Traded	12.1%	8.0%	20.1%
Private/ Employee-Owned	10.4%	4.4%	14.8%
250 - 1 Billion	9.0%	2.8%	11.8%
100 - 250 Million	8.5%	3.2%	11.7%
50 - 100 Million	8.5%	2.8%	11.3%
25-50 Million	6.4%	2.4%	8.8%
< 25 Million	6.0%	2.0%	8.0%

Source: Environmental Financial Consulting Group; October 2017 Survey.

Interesting Deals EFCG Advised On in Late 2017

Long Point Capital Makes a Minority Investment in Woolpert: EFCG initiated and advised **Woolpert**, a $150M revenue, 100-year old, employee-owned firm, on its sale of a minority stake to the private equity firm **Long Point Capital**. Woolpert is an integrated architecture, engineering and geospatial firm that leverages its technological edge to help its clients plan, design, operate and manage critical infrastructure. Woolpert was looking for capital to help facilitate ownership transition, make acquisitions, and provide some liquidity; but at the same time, Woolpert's management team is young (mid-40s on average) and ambitious, and wanted the proverbial second bite at the apple that a strategic buyer couldn't offer. Woolpert was attracted to Long Point Capital in particular because of its significant experience and success in the a/e/c space (Long Point recently exited its investment in Cumming Group, a ~$100M revenue PM / CM firm, and is currently invested in CHA, a ~$250M revenue diversified a/e/c firm). While minority private equity investments are fairly rare, we would not be surprised to see more of them, particularly since many employee-owned firms need capital, but don't necessarily want or need to "sell" the firm to a large strategic buyer. Armed with this new capital partner, we expect Woolpert to pursue an aggressive growth strategy going forward to fulfill its management's ambitious, yet in EFCG's view, achievable plans.

Veolia Acquires Wastren Advantage (pending in December 2017): EFCG initiated and advised **Wastren Advantage**, a ~$100M revenue, employee-owned firm, on its sale to **Veolia**, a French-headquartered, ~$30B revenue, publicly-traded firm. Wastren works primarily for the US DOE (Department of Energy) on nuclear cleanup projects. Wastren historically competed as a "small-business" for US Federal Government contracting purposes, but as it grew, reached the size limit. If Wastren continued to grow, it would lose its "small-business" status, but wouldn't have the scale or balance sheet to compete against the "Tier-1" prime DOE contractors like Bechtel, AECOM and CH2M. One of the challenges in finding a partner for Wastren was that the partner would risk losing much of Wastren's small-business set-aside work when the contracts came up for renewal, and therefore, would have a hard time rationalizing a fair market multiple for Wastren's current earnings. Veolia was a perfect match because it was looking for a US DOE platform (it has a market leading position in France and Europe), and believed the combination of Wastren's DOE experience and its world-class nuclear experience and strong balance sheet would enable the combined entity to effectively compete against the "Tier-1" contractors for major prime contracts. The acquisition received U.S. Federal Government approval (required in light ofWastren's proposed foreign ownership), and is expected to close in 2017. Similar to Woolpert, EFCG expects Wastren's management to continue to lead Veolia's US DOE engineering / consulting business and achieve much stronger internal and acquisitive growth than it could on its own.

7 MILE ADVISORS SEES CONSOLIDATION DRIVING REGIONAL COMPETITION

Neil Churman is a Director at ***7 Mile Advisors****, a specialized investment bank that provides M&A and private capital advisory services to clients in the environmental, infrastructure, and energy services industries.*

EBJ: With all the consolidation in the industry you've seen over the last decade or more, how would you say the challenges have changed for the small or for the mid-size company in the consulting engineering industry?

Neil Churman: I think small and mid-sized firms are feeling the pressure from larger, global players that have come into their backyards more than ever. Firms whose traditional competitors have been acquired by the Stantecs and NV5s of the world are now having to compete with the full resources of those firms for local projects. To continue to be successful in that environment, firms need to focus on specialized services and expertise and superior client service. There is no room for complacency in today's market.

EBJ: Data indicates that internal growth is substantially higher in small and mid-sized firms. Do you find this is true and what client sectors or client preferences are driving this.

Generally speaking, I do think it's easier to grow when you're smaller and more nimble. One big project or client can serve as a launching pad for a small firm. I think clients are also asking more of their consultants in terms of full-service solutions and that's forcing firms to find ways to expand what they can do.

EBJ: What do you think have been some of the more important transactions in C&E in the last 12 months or so and what do they mean for the industry?

Churman: The last few years have seen a major shakeup among some of the largest firms in the industry and this year was no exception. If you go back to the 2014

ENR Top 500 Design firms, a quarter of the Top 20 firms have been acquired since. That's an incredible amount of consolidation at the top.

Jacobs' acquisition of **CH2M** is probably at the top of the list this year in terms of significance. You now have a player with some 75,000 staff that is on the scale of AECOM, which had been in a class of its own since it acquired URS. The deal strengthens Jacobs in environmental and water services in a big way, as well as with Federal clients.

While I wouldn't suggest there's one transaction in particular, **NV5** has made a splash this year advancing its E&C services through M&A. They've closed a half dozen deals, several of which boost their environmental services, including acquisitions of **Holdredge & Kull** and **Marron & Associates**. I think NV5's model of consolidating smaller, more specialized firms into a national practice is going to continue to put competitive pressure on smaller firms.

I also think **TRC**'s deal with **New Mountain Capital** to go private is an important one. It continues to solidify private equity's interest in our industry and now puts TRC in a position to continue to grow its business without the short-term pressures of quarterly earnings expectations. I believe that private equity is going to continue to be a bigger and bigger factor in the industry among both public and private companies.

EBJ: What impact has PE had on the C&E industry?

Churman: I think the impact has been significant on a number of fronts. First off, I think private equity has been a positive for some of the smaller publicly traded firms that have gone private, such as TRC, CDI, Versar, and Michael Baker. It enables them to grow with a long-term view and provides capital to fuel that expansion. Even for smaller firms, private equity can be a great tool to transition ownership and enable growth. We are also seeing some private equity funds emerge as industry specialists, who truly understand the professional services business model and how to get the best out of it. Keystone Capital, Long Point Capital, and Bernhard Capital Partners are just a few of the funds that have done multiple deals in the E&C space.

EBJ: What about regional differences? Working out of Houston now how did firms in general react to oil & gas cycles and then more recently the hurricane?

Churman: The oil and gas cycle has been tough for a lot of firms that were riding that wave only to see it crash. Firms that have been able to pivot to public sector work like transportation or into other aspects of O&G, like downstream facilities, have been able to sustain, but it speaks to the value of having diversification in your clients and end markets.

As to the hurricane, there was some immediate work for local firms in certain aspects of the emergency response, but I think the longer-term implications are only starting to be sorted out. For example, Harris Country, which contains Houston, just approved new building code regulations that now require any new structures within the 100-year floodplain to be built two feet above the 500-year floodplain. That's a big difference from past practices and is going to require local E&C firms to change the ways they design.

EBJ: Regarding ownership in the environmental consulting and engineering business, do you believe we're approaching a point where a large number of firms in the small and mid-range are owned by individual owners or principal groups that are near retirement and don't have the ability to internally sell their shares or adequately achieve value for their ownership stakes without selling the company?

Churman: I think we're already there. We see more and more firms each year that need to transition ownership as founding, or even second-generation, Principals look to retire. It's often unfeasible for employees to cut a check for those shares. I think private capital is a solution that could help fill that gap though. Traditional majority sales to private equity funds, minority equity recapitalizations, or even leveraged recaps are all tools that can enable firms to transition ownership without selling to a strategic buyer. They've been somewhat underutilized in the E&C industry to this point, but I think we will see more of these types of transactions moving ahead.

EBJ: Do you believe it is fair to characterize the market today as a 'sellers' market' or do you think the balance is pretty equal between motivated buyers and motivated sellers in the industry?

Churman: I'd call it a bifurcated market. If you've built a strong firm with solid profitability, minimal client concentration, a deep bench of leaders, and differentiated services, it's a seller's market and there is a lot of competition for those types of deals among buyers. If you have weaknesses in your business, dynamics tip in favor of the buyers and in some instances, there's little to no interest in those firms in the market. Whether a firm is thinking about selling or not, they can't go wrong by trying to build a healthy and sustainable business, regardless of the end game.

EBJ: Do you think smaller or mid-size firms are increasingly developing their own M&A strategy? What is driving this and give some examples of firms that are taking advantage of what may be a gap in the market?

Churman: I do think that's the case. I think the competitive pressures created by larger firms, as well as client demands for more full-service solutions, are forcing firms to find ways to add talent and expertise. I also think firms are looking for more diversification in their clients and geographic reach. No one knows exactly when the next downturn will come, but I think the Great Recession taught a lot of firms that you don't want to have all your eggs in one basket.

I think OBG is a great example of a mid-sized firm who's used M&A to their strategic advantage. I had a chance to work with them on their acquisitions of **PENTA Engineering** and **Natural Resource Technology** and both deals added highly strategic services and expertise in key geographies. More importantly, both transactions provide mutual growth opportunities to do more together than either firm could individually in those markets. ☐

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