ENVIRONMENTAL BUSINESS JOURNAL®

Strategic Information for a Changing Industry

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EBJ BUSINESS ACHIEVEMENT AWARDS RECOGNIZE BUSINESS PERFORMANCE, M&A, PROJECTS, TECHNOLOGY & LEADERSHIP

Environmental Business Journal *presents its annual EBJ Business Achievement Awards for outstanding business performance in 2025. Congratulations to the winners, and thanks to all the companies that submitted nominations. All are welcome to attend the official awards ceremony and dinner as part of Environmental Industry Summit XXIV at the Coronado Island Marriott Hotel (Coronado, Calif.) on April 2, 2026, from 7-9pm. Environmental Industry Summit XXIV runs April 1-3, 2026 at the Coronado Island Marriott in San Diego, Calif.*

2025 EBJ Business Achievement Awards

Business Achievement: Large Firms

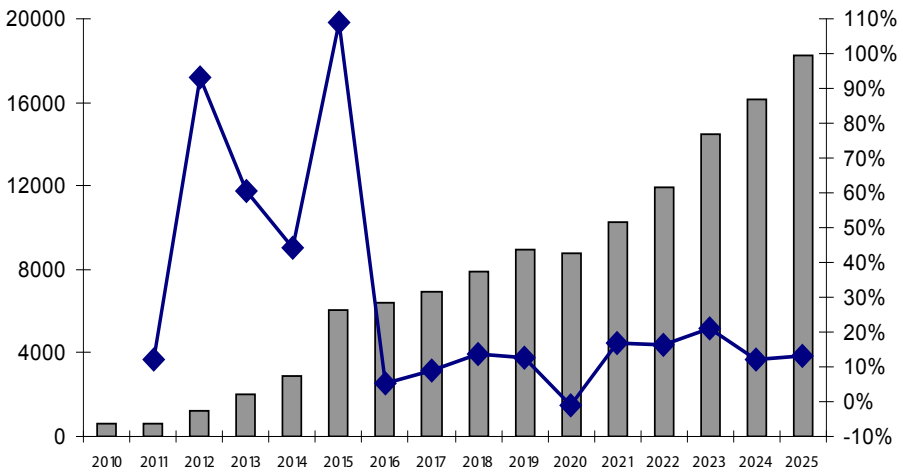
WSP

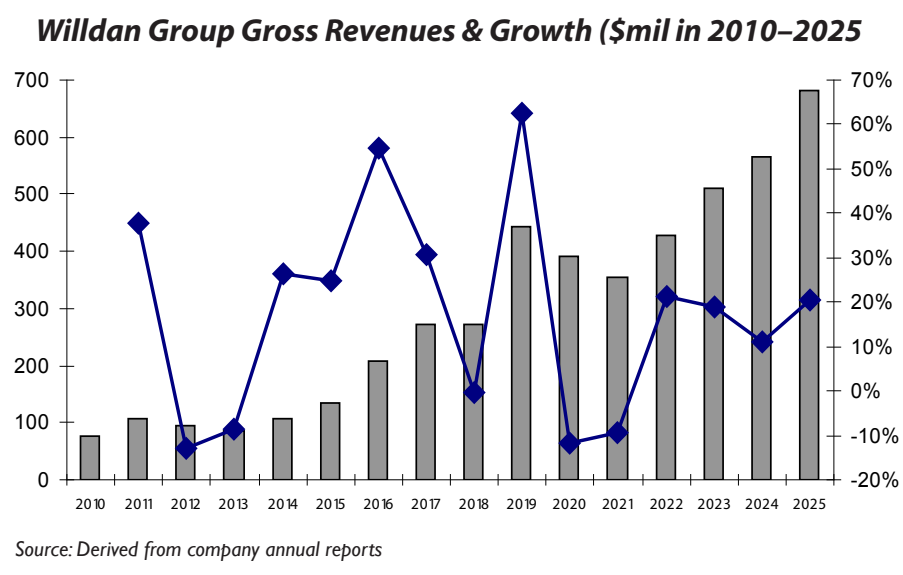
WSP Global Inc. took over the number one spot in environmental consulting & engineering with continued growth and acquisitions in 2025. In December 2025, WSP Global acquired **TRC Companies** from its private equity owner Warburg Pincus for $3.3 billion, boosting WSP's profile in the power and energy sector, and creating the No. 1 Power & Energy platform in the United States, with the sector contributing 34% of WSP's U.S. net revenues.

The TRC deal followed the 2024 acquisition of **Power Engineers** and the June 2025 acquisition of the UK-based frim **Ricardo plc.** TRC, founded in 1969, is one of the oldest and largest environmental engineering and consulting companies in the United States. Combined with TRC's 8,000 people, WSP says it will become the largest engineering and design firm in the United States, with 27,000 employees combined.

"With TRC's innovative, technology-oriented power business, underscored by an advanced use of digital, we will significantly strengthen WSP's Power & Energy offering. Additionally, TRC's globally recognized Environmental & Infrastructure business, which is the seed from which

Inside EBJ: 2025 Awards & 2026 Executive Q&As





TRC grew, will enhance WSP's capabilities across Water, Infrastructure and Environment," said Christopher P. Vincze, chairman and CEO of TRC. The move is expected to accelerate WSP's organic growth rate profile globally and marks a significant acceleration of the firm's 2025-2027 Global Strategic Action Plan. Through three quarters, WSP total revenue grew 16.9% to $13.4 billion in 2025.

Business Achievement: Large Firms

Willdan Group

In 2025, **Willdan Group Inc.** delivered strong financial growth and improved profitability, driven by robust demand for its energy, sustainability, and engineering services. Through three quarters, contract revenue grew 20.4% to $508 million, and net revenue 26.8% to $275 million. For the full year, the publicly traded company raised its guidance, projecting net revenue of $360–365 million and adjusted EBITDA of $78 million, reflecting organic growth, strategic acquisitions and growing electricity demand driven by data centers and electrification.

Revenue and profitability gains were supported by 20% organic net-revenue growth, strong activity in utility programs, planning and construction management, and energy efficiency engagements, as well as contributions from the March 2025 acquisition of **Alternative Power Generation** (APG), an electrical engineering and construction management firm for EV charging, solar, AI data centers, microgrids, battery energy storage systems, and substations.

Improvements in margin and cash flow underpinned Willdan's ability to invest in growth initiatives and maintain a strong balance sheet; 2025's performance reinforced Willdan's position as a leading provider of energy transition, grid modernization, and environmental engineering solutions on both public and private sector projects.

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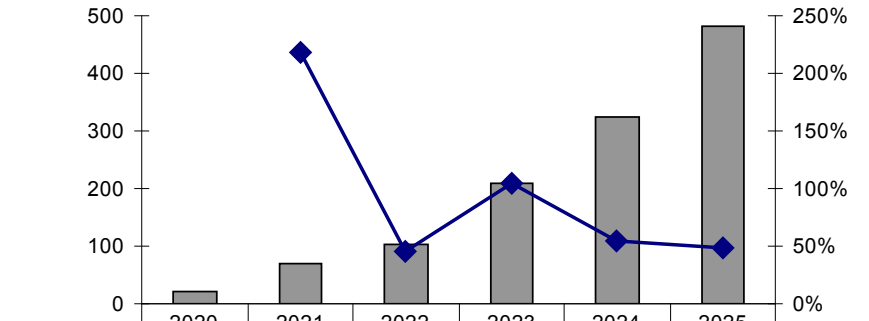
Verdantas Gross Revenues & Growth ($mil in 2020–2025)



	2020	2021	2022	2023	2024	2025
($mil)	22	70	102	209	324	482
growth		218%	46%	105%	55%	49%

Source: Data provided to EBJ by Verdantas; 2025 revenue does not include joint venture revenue

Business Achievement: Large Firms

Verdantas

Verdantas leveraged its 2024 recapitalization with impressive growth and acquisition activity in 2025. Verdantas was founded in 2020 with RTC Partners through the merger of multiple technical consulting firms, rapidly establishing a national platform for environmental science, sustainable engineering, digital technologies, and integrated consulting. Since inception, Verdantas has pursued an aggressive growth strategy, scaling from 280 employees in 2020 to 2,150 employees and 95 offices in late 2025 across the U.S. and Canada. In May 2024, Verdantas was recapitalized when Sterling Investment Partners acquired a majority stake from Round Table Capital Partners. In 2025 Verdantas completed 11 acquisitions, ranging from 35 to 400 employees and totaling over 1,200 employees added in 2025 in a variety of environmental specialties and disciplines.

Business Achievement: Large Firms

SWCA Environmental Consultants

SWCA Environmental Consultants delivered strong business performance in 2025, reporting total sales over $420 million, a more than 8% increase over 2024. This growth reflects sustained client demand across environmental planning, permitting, compliance, and restoration, supported by strategic investments in people, operations, and service delivery. SWCA expanded its geographic footprint with new offices in Boise, Idaho; Riverside, California; Gainesville, Florida; and Minneapolis, Minnesota, strengthening regional presence and enhancing client support nationwide. The firm also celebrated 25 years as a 100% employee-owned company, a milestone that continues to drive shared accountability, innovation, and long-term performance. Operational investments included continued expansion of SWCA's ecosystem of resources for project managers, the launch of a redesigned website to better serve clients and communicate technical services, and the introduction of Sustainable Field Practices. Workforce development remained a focus with over 1,840 employees, and SWCA added 45 interns across 17 offices, representing its largest internship program to date.

Business Achievement: Mid-size Firms

Rincon Consultants

Rincon Consultants Inc. delivered exceptional business performance in its recently closed fiscal year, with strong revenue growth, sustained profitability, and organizational expansion. The firm surpassed $100 million gross revenue and achieved double-digit growth, while EBITDA growth reached roughly twice the peer median, positioning Rincon among the top industry performers. Profitability remained a core strength. Rincon consistently outperformed peers on profit margins while maintaining a bonus pool approximately 50% higher than industry benchmarks and preserving strong after-bonus margins. This performance reflects Rincon's fiscal year strategy of effective cost management and operational discipline in a year capped by uncertainty. Headcount increased by 12.5% to nearly 550 employees, voluntary turnover declined, and retention of key staff remained high at 91%. Rincon earned a 94% overall approval score on its Great Place to Work

About the 2025 EBJ Business Achievement Awards

In October-December 2025, Environmental Business Journal solicited the environmental industry via e-mail, website, social media, traditional media, referrals from industry advisors and word-of-mouth for nominations for the EBJ Business Achievement Awards. Nominations were accepted in 200-word essays in either specific or unspecified categories. Categories or size designations may have been adjusted depending on the volume of nominations or the number of worthy recipients. Final awards were determined by a committee of EBJ staff and EBJ editorial advisory board members.

The 2025 EBJ awards will be presented at an official awards ceremony and EBJ & CCBJ Awards presentation banquet as part of Environmental Industry Summit XXIV in Coronado, California, across the bay from downtown San Diego on Thursday, April 2, 2026 from 7-9pm. Environmental Industry Summit runs from Wednesday, April 1 through Friday, April 3, 2026. The Environmental Industry Summit is an annual event hosted by EBJ. Congratulations to the award recipients, and EBJ encourages all interested companies to participate next year. (Disclaimer: company audits were not conducted to verify information or claims submitted with nominations.)

survey and maintained a strong 4.4 rating on Glassdoor. The firm also achieved its second three-year Evergreen certification from the Tugboat Institute, remaining the only Evergreen-certified firm in the AEC industry among more than 100 certified companies nationwide.

Business Achievement: Mid-size Firms

SC&A

SC&A Inc. has a 40-plus year history of providing consulting and engineering services while protecting the well-being and health of individuals, communities, and the environment. The firm's primary client is the federal government, with the U.S. EPA being SC&A's largest client. Despite pressure from the current Administration to reduce the size and impact of the EPA, SC&A has been able to achieve 10% growth in revenue from FY24 to FY25 and is expected to grow by 20% from FY25 to FY26. This increase in revenue is being aided by SC&A's recent entry into the water and wastewater market and a renewed interest in nuclear power.

Business Achievement: Mid-size Firms

Sovereign Consulting

Sovereign Consulting Inc. achieved significant business success through the rapid expansion of its Water & Wastewater Construction Group, positioning the firm as a leader in critical infrastructure delivery across New Jersey, Maryland, and New York. Over the past two years, the Group grew from two to more than 20 employees, building specialized expertise in water treatment, PFAS remediation systems, and wastewater facility construction. During this period, Sovereign delivered municipal, state, and private-sector projects involving advanced treatment systems, plant upgrades, and resilience-focused infrastructure that protect public health and ensure regulatory compliance. In 2025, the Group secured approximately $50 million in completed and contracted backlog, reflecting strong momentum in both public and private markets. This growth demonstrates Sovereign's ability to anticipate client needs through strategic investment in talent, technical innovation, and construction management excellence. As part of a 150-person firm with national reach, Sovereign's water and wastewater success underscores its broader strategy of targeted market leadership and its commitment to delivering resilient, sustainable infrastructure and long-term value to communities.

Business Achievement: Mid-size Firms

TechLaw Consultants

In 2025, **TechLaw Consultants Inc.** (dba TechLaw) became the first and only contractor to achieve 50 task order wins under the USEPA Remedial Acquisition Framework-Environmental Services and Operations set-aside contract vehicle for businesses under 500 employees. Since 2018, TechLaw has won more than $60 million in awards—including a signature $10.8 million single award in October 2025 to provide technical support for EPA remediation efforts.

Business Achievement: Mid-size Firms

EarthSoft

EarthSoft Inc. achieved over 30% revenue growth in 2025, fueled by innovations in its EQuIS® software suite, global expansion, and strategic partnerships. The company launched EQuIS Helios, an AI-powered portal for unstructured data, and expanded EQuIS Geotech to support enterprise geotechnical workflows. EarthSoft expanded its team in Australia, the Philippines, and India, and secured major contracts with NASA, a global mining company, and multiple U.S. state agencies. Strategic partnerships, such as AECOM and its PlanEngage platform, enhance stakeholder engagement and environmental storytelling. EarthSoft won multiple new contracts in 2025 for use cases such as coal-ash data management, benzene fenceline monitoring, recreational water quality, PFAS remediation, geotechnical, and others. EarthSoft supports the NICOLE Foundation's Global Mission of addressing legacy pollution in underserved regions. At the June 2025 Europe EQuIS User Group, NICOLE demonstrated how EQuIS powers their global environmental projects. EarthSoft continues to collaborate with NICOLE, providing technology and support to advance their mission and environmental projects in Ukraine and North Syria.

Business Achievement: Small Firms

Marstel-Day

Marstel-Day delivered another year of strong organic growth and financial performance in FY25, increasing revenue 19% year-over-year to $15.9 million while maintaining a high EBITDA margin, despite disruption across portions of the federal market. Over the past three fiscal years (FY22–FY25), the firm achieved a 40% compound annual growth rate in revenue and an 80% CAGR in EBITDA, reflecting disciplined execution and expanding client demand. Staffing grew to more than 80 full-time and part-time professionals, strengthening capabilities in ecosystem restoration, master planning, landscape conservation, NEPA, architectural history, archaeology, and community engagement. Marstel-Day also significantly deepened its future visibility, growing its contract backlog to more than $35 million in 2025, nearly tripling backlog over three years. Growth in FY25 was driven primarily by new contract awards with the U.S. Department of Defense—including the U.S. Air Force, U.S. Army Corps of Engineers, Army, Navy, Marine Corps, National Guard, Air Force Reserve, and the Office of the Secretary of Defense—and the U.S. Department of the Interior, including the U.S. Fish and Wildlife Service, Bureau of Land Management, and National Park Service. Key areas of growth included ecosystem restoration, coastal resilience, NEPA and cultural resources, master planning, encroachment management, asset management, and landscape conservation planning, positioning the firm for continued expansion across defense, natural resource, and land management markets.

MERGERS & ACQUISITIONS AWARDS

Mergers & Acquisitions

Alliance Technical Group

In 2025, **Alliance Technical Group** accelerated its growth strategy through a series of acquisitions and mergers that expanded North American coverage, deepened technical expertise, and strengthened its ability to deliver fully integrated, end-to-end environmental compliance solutions. The additions of Global Analyzer Systems Ltd., ESC Spectrum, Environmental 360, Slipstream Environmental Services, Earth Analytical Sciences, Inc., and Element One were selected for their complementary capabilities, enhancing Alliance's position as North America's leading provider of stack testing, CEMS, engine testing, and LDAR services, supported by advanced DAS technology, emissions monitoring, combustion expertise, and comprehensive laboratory analysis.

Expanded U.S. and Canadian coverage improved localized service delivery across major industrial regions, while unified technical teams enabled tailored solutions across diverse regulatory environments. ESC Spectrum's best-in-class DAS capabilities, combined with expanded monitoring and laboratory services, improve data accuracy, streamline reporting, and strengthen compliance confidence. By consolidating services under a single provider, Alliance simplifies compliance management for clients and delivers a seamless, client-centered experience from measurement and analysis through program management and regulatory reporting.

Mergers & Acquisitions

Morgan Stanley Capital Partners

Morgan Stanley Capital Partners (MSCP) had a busy late 2025 and announced two major environmental industry transactions in the first two weeks of 2026: In the first week of the New Year, MSCP portfolio company Alliance Technical Group (ATG), a leading provider of environmental testing, monitoring, and compliance services, was acquired by Blackstone Energy Transition Partners. Founded in 2000 and headquartered in Alabama, ATG has grown into one of the largest full-service environmental compliance and testing providers in North America, with more than 2,200 employees located in 60-plus offices and labs across the United States and Canada. ATG delivers a suite of solutions including source and lab testing, continuous emission monitoring systems, and leak detection and repair that help businesses maintain regulatory compliance and safety while driving efficiency through ATG's data-driven insights.

A week later, MSCP announced the acquisition of Olsson Inc. Based in Lincoln, Neb., Olsson was founded in 1956 and has more than 2,000 employees in 35 offices. Olsson offers infrastructure engineering design and consulting to both public and private clients across a diverse end-markets including technology, transportation and water infrastructure, power, industrial, and federal. MSCP's investment in Olsson represents its fourth in infrastructure services since 2021, following investments in Resource Innovations, Apex Companies and Alliance Technical Group.

Mergers & Acquisitions

Clairvest Group

In 2025, **Clairvest Group Inc.** partnered with NCS Engineers in a proprietary transaction. Founder and CEO of NCS Ram Narasimhan chose Clairvest for its aligned values, partnership approach, and proven track record building growth platforms. NCS provides turnkey water and wastewater engineering solutions across the United States, with a strong presence in Arizona and expanding presence in Nevada, California, Texas, Maryland, and Virginia. The company delivers mission-critical infrastructure projects, including water and wastewater treatment plants, pump stations, and water storage facilities. Partnership with Clairvest enables NCS to enhance its capabilities, expand geographically, and pursue strategic acquisitions with the end-result of providing new and exciting opportunities for employees and enhanced service to clients.

Mergers & Acquisitions

Marine Taxonomic Services

In September 2025, **Marine Taxonomic Services Ltd.** (MTS) was acquired by NV5, a leading provider of geospatial, professional and technical engineering and consulting solutions. Seth Jones, CEO and Principal Project Manager/Scientist of MTS, alongside Dr. Robin Jones, COO and Vice President of Operations, and Dr. Robert Mooney, Vice President and Principal Project Manager/Scientist, grew MTS from $150,000 in revenue in 2009 to over $6 million in 2025—being strategic about hires and workload and without borrowing money along the way. This stellar growth was fueled by a steadfast commitment to doing work they love and building a strong family where together MTS has innovated and expanded into various marine and aquatic services in Southern California, Lake Tahoe, Oregon and beyond. The company has built a strong reputation for delivering high-quality biological assessments, specialty dive services, aquatic plant and seagrass mapping, bathymetric surveys, invasive species management, contaminated sediment studies, dredge monitoring, benthic sampling and species identification services to government agencies, engineering firms, industrial and commercial clients, and environmental organizations.

Mergers & Acquisitions

NV5 Global/Acuren

In May 2025 NV5 Global Inc. (Nasdaq: NVEE) and **Acuren Corporation** (NYSE: TIC) merged to create a $2 billion testing, inspection, certification and compliance (TICC) and engineering services company. Acuren is a leading provider of critical asset integrity services, operating primarily in North America and serving industrial markets with essential, often compliance-mandated services, and focused on the recurring maintenance needs of its customers. Acuren's work fits into the TICC service category, including nondestructive testing in the field and the laboratory and in-lab destructive testing capabilities. NV5 is a provider of tech-

enabled engineering, testing, inspection, and consulting for the built environment, specializing in engineering design, asset management, and geospatial data analytics to support infrastructure resilience and building systems performance throughout the entire asset lifecycle. NV5's 5,000 consulting engineers, inspectors and analysts operate out of more than 100 offices nationwide and abroad.

Mergers & Acquisitions

Pace Analytical

In 2025, **Pace®** continued to build upon its Building Sciences practice (launched 2024) with four strategic acquisitions: **Micron Environmental Labs** and **Patriot Labs**, both located in California, **DCM Laboratories** in Colorado, and **Quantem Laboratories** in Oklahoma. These facilities – and their geographic coverage – complement the footprint of Pace's 10 existing Building Sciences locations, which are more heavily concentrated in the eastern United States. While the acquired labs added testing capacity, they have also proven valuable to local markets. For example, the proximity of Micron (now Pace in El Monte, Calif.) provided swift testing support during the California wildfires. DCM Laboratories brings respirable crystalline silica (RCS) testing and analysis using X-ray diffraction technology, giving Pace the ability to quantify precisely crystalline silica in both air and bulk samples and helping clients make critical health and safety decisions. RCS testing also complements Pace's testing services for the mining and manufacturing industries. Quantem added food safety microbiology testing services, testing food for contaminants, pathogens and indicator and spoilage organisms, nutritional content and additives, and shelf life. Quantem also provides emergency services for quality testing impacting public health. Pace Building Sciences has a portfolio of laboratory services for evaluating and controlling health hazards in the built environment. Through the depth and breadth of capabilities across the Pace network, the company also provides specialty services like water management plans, certification and environmental monitoring of cleanrooms, USP 797 testing and analysis, ASSE 12080 certification training, and consulting for healthcare systems.

Mergers & Acquisitions

Spheros Environmental

In 2025, **Spheros Environmental** executed four strategic acquisitions designed to strengthen technical depth and expand geographic reach: 1. With offices in Idaho, Washington, and Florida, EcoAnalysts (acquired January 2025) added more than 30 years of aquatic and terrestrial biology expertise, expanding Spheros' advanced taxonomic and ecotoxicity capabilities. 2. Northwater Consulting (May 2025) reinforced Spheros' water resources and geosciences bench from hubs in Illinois and North Carolina, supporting watershed planning and groundwater modeling. 3. Four Peaks Environmental (August 2025) extended ecological and data services across six states – Washington, Oregon, Idaho, Illinois, Massachusetts, and Montana – enhancing fisheries science and habitat assessments. 4. Finally, Ironwood Consulting (November 2025) strengthened biological resources and complex permitting expertise for energy and capital projects in Southern California and the Rocky Mountain region. The acquisitions expanded Spheros' footprint from 14 states to more than 20 and added dozens of specialists, growing the firm from 205 in January 2025 to 415 in December 2025. Combined with a 40.7% revenue increase in 2024, these transactions reflect Spheros' disciplined growth, operational resilience, and commitment to science-forward environmental solutions delivered at scale.

Mergers & Acquisitions

SOCOTEC

In early 2025, **SOCOTEC** (Paris, France) strengthened its environmental and infrastructure services platform by acquiring Ninyo & Moore (San Diego, Calif.), a $12-million firm founded in 1986, with strong capabilities in geotechnical and environmental engineering, materials testing, inspection, industrial hygiene, and occupational safety. The acquisition expands SOCOTEC's U.S. presence into the western states, adding 16 offices and approximately 600 employees across California, Nevada, Arizona, Colorado, Texas, and Utah. SOCOTEC USA's workforce now exceeds 1,300 professionals, complementing its established operations in the eastern United States. Strategically, the transaction introduces Infrastructure and Environment as new service pillars for SOCOTEC USA, aligning with SOCOTEC Group's global portfolio, where these services already represent more than 40% of worldwide revenues. The SOCOTEC Group reports global revenues exceeding $1.7 billion, with the U.S. positioned as a core growth market. Globally, SOCOTEC's environmental activities in its Infrastructure and Environment groups account for 40% of revenues mostly in remediation consulting, monitoring, lab testing, geotech, permitting and audits. Headquartered in Paris, SOCOTEC plays a major role in France and the UK in brownfields, transportation infrastructure, energy transition, and industrial site compliance.

NEW PRACTICE AWARDS

New Practice: Extended Producer Responsibility

BSI

By combining deep regulatory expertise with a strategic, lifecycle-based approach, **BSI Consulting**'s Extended Producer Responsibility (EPR) practice is redefining how organizations address responsibility, resilience, and sustainability. Launched in 2025 in response to rapidly expanding global EPR requirements, the practice helps organizations manage product impacts from design and packaging through recovery and recycling with clarity and confidence. As EPR regulations accelerate across the United States, Canada, and the EU, demand for sustainability and regulatory consulting rose 33% in 2025. To meet this need, BSI assembled a cross-disciplinary team of regulatory specialists, sustainability strategists, and data analysts to deliver future-ready EPR solutions. The practice is differentiated by integrating EPR into broader ESG strategies, supply

chain resilience, and circular economy objectives—helping clients reduce waste, improve recovery systems, lower compliance fees, strengthen brand integrity, and demonstrate measurable environmental and business value. To support the launch, BSI introduced a comprehensive EPR Guide, published two widely cited thought leadership articles on U.S. and global EPR laws, and created a dedicated EPR web page. These resources have quickly become trusted reference points for organizations navigating an increasingly complex regulatory landscape.

New Practice: Watercraft Inspection and Decontamination

Dudek

Dudek recently launched a specialized watercraft inspection and decontamination practice to combat the emerging threat of golden mussel infestation in California's critical waterways and infrastructure systems. This invasive species poses significant risks to water delivery, recreational use, and ecological health, making rapid intervention essential. As an on-call consultant for the California Department of Water Resources, Dudek was able to mobilize quickly to implement inspection and decontamination protocols to protect water resources. This swift response not only addressed an immediate need but also established a new service offering that strengthens protection for vital water resources across the state. Since initiating this service, Dudek has recruited approximately 80 highly qualified experts to fulfill vital supporting roles, thereby ensuring the capacity and expertise necessary to meet this challenge at scale.

New Practice: Treatability Pilot Studies

EA Engineering, Science, and Technology

EA Engineering Science and Technology Inc. PBC and its EnviTreat treatability laboratory has experienced strong growth driven by rising demand for customized treatability and product testing that bridges concept and real-world application. In 2025, EnviTreat expanded its laboratory footprint by 66%, tripled anaerobic respirometry capacity, and added a dedicated 35°C anaerobic testing suite. These investments allow multiple temperature-controlled pilot units to operate simultaneously, accelerating complex testing programs and innovation. EnviTreat supports a diverse client base—including municipal utilities, consulting engineers, equipment vendors, and industrial sectors such as food and beverage, pharmaceuticals, oil and gas, and chemicals—through custom-designed, lab-scale testing that closely replicates full-scale treatment processes. Multi-step setups mimic complete process trains, ensuring results translate directly to operations. The laboratory's adaptive design enables rapid reconfiguration, cost-efficient experimentation, and rigorous validation of emerging solutions. Recent projects demonstrate EnviTreat's ability to address high-strength contamination and identify new resource-recovery opportunities. By combining technical rigor with operational expertise, EA's EnviTreat laboratory enables clients to move confidently from idea to implementation, delivering reliable, scalable solutions for complex wastewater challenges.

New Practice: Integrated Catchment Management

Jacobs

In 2025,**Jacobs** launched a dedicated Integrated Catchment Management (ICM) service to deliver a holistic, systems-based approach to water stewardship that benefits people, places, and the environment. The service prioritizes nature-based solutions and coordinated funding strategies to create scalable, catchment-level models for sustainable water management. The practice of ICM combines deep technical expertise with collaborative planning to develop integrated water management strategies and co-design solutions from first principles. A dedicated capability group brings together clients, partners, regulators, utilities, and communities to break down traditional silos and focus on shared outcomes that reflect social, environmental, and economic value beyond cost alone. Following a successful pilot with the Greater Manchester Integrated Water Management Plan in the UK, Jacobs is now delivering integrated catchment solutions across the North of England, the Midlands, and the South East. By embedding innovation and nature-based approaches, ICM enhances biodiversity, ecosystem services, and climate resilience while delivering long-term social value that extends well beyond traditional water infrastructure investments.

New Practice: Respirable Crystalline Silica Testing

Pace Analytical

Pace added Respirable Crystalline Silica (RCS) testing services to help clients in mining, construction, manufacturing, and other industries maintain compliance with OSHA and other regulatory standards while protecting worker health and safety. Pace applies advanced analytical methods such as X-ray diffraction (XRD) to quantify silica concentrations accurately in air and bulk samples. Precise detection limits support industrial hygiene assessments, exposure monitoring, and environmental investigations.

New Practice: Economics Group

Pinyon Environmental

Formed in 2025, **Pinyon Environmental Inc**.'s Economics Group represents a strategic expansion into comprehensive economic analysis and impact assessment services for infrastructure, environmental, and development projects. The group delivers actionable insights through economic impact analysis, benefit-cost assessments, and socioeconomic evaluations that inform decision-making across public and private sectors. The team specializes in quantifying the economic implications of environmental restoration, infrastructure investment, and regulatory change—capabilities increasingly critical as communities balance growth with sustainability. Expertise includes regional economic modeling,

fiscal impact analysis, and cost-effectiveness studies that help clients secure funding, demonstrate project value, and meet regulatory requirements. By working closely with Pinyon's environmental and engineering teams, economic analysis is integrated throughout the project lifecycle rather than treated as an afterthought. This integrated approach enables clients to move beyond compliance toward confident, data-driven decisions, helping prioritize investments, manage financial risk, and build stakeholder consensus through clear, defensible analysis.

INFORMATION TECHNOLOGY AWARDS

Information Technology: Project Management Dashboard

BEM Systems

BEM Systems Inc., an Aventia Company, demonstrated leadership in environmental information management through its Project Management Dashboard (PMDB™), a secure, web-enabled platform that integrates real-time data, schedules, and regulatory deliverables into a single interface. Features such as dynamic querying, automated EDD uploads, and GIS-based visualization—including 3D conceptual site models—enable faster, better-informed decision-making. PMDB enhances collaboration among clients, regulators, and project teams through tiered user access and compliance with Cybersecurity Maturity Model Certification (CMMC) standards, ensuring data integrity and security. BEM deployed PMDB for the Basewide PFOS/PFOA Remedial Investigation at Buckley Space Force Base, one of the Department of Defense's most complex PFAS investigations. The platform managed more than 1,300 samples across soil, groundwater, and sediment; tracked 160 borings, 23 monitoring wells, and 32 lysimeters; and integrated geospatial data to support adaptive TRIAD workflows. By enabling real-time visualization, automated data management, and collaborative refinement of conceptual site models, PMDB reduced uncertainty and improved efficiency. This project set a national benchmark for PFAS investigations, illustrating how BEM combines environmental expertise with advanced IT to deliver secure, efficient, and impactful outcomes.

Information Technology: Enterprise Environmental Information Management

Ecobot

Ecobot delivers an enterprise-grade, cloud-based platform that transforms environmental permitting data into a strategic business asset. In 2025, Ecobot advanced its GIS-native system to help large organizations consistently capture, govern, and scale high-value environmental field data across complex, multi-project portfolios. By standardizing data at the point of collection, Ecobot ensures spatial accuracy, consistency, and defensibility—reducing regulatory risk and improving confidence in decision-making. Enhancements released in Fall 2025 strengthened enterprise visibility and control through improved mapping, clearer photo context, seamless survey transfer, and expanded user and device management. These capabilities enable executives and program leaders to coordinate distributed teams, eliminate data silos, and rapidly deploy standardized workflows across offices and business units. Field data becomes immediately usable, comparable, and auditable—supporting faster approvals, fewer revisions, and more predictable project outcomes. Ecobot's platform shifts environmental data from static reporting to a reusable, long-term information asset. This foundation supports enterprise analytics, AI-enabled quality assurance, and scalable growth without proportional increases in staffing or overhead. By improving data governance, operational efficiency, and regulatory confidence, Ecobot empowers organizations to manage environmental obligations more strategically while delivering higher-quality results at scale.

Information Technology: Mobile Data Collection

FactorEarth, a Terracon Company

In 2024, **Terracon** acquired Metcalf Archaeological Consultants Inc., including the rights to Factor Earth LLC and its proprietary intellectual property. FactorEarth partnered with the Colorado School of Mines in 2018 to develop cutting-edge technology to address a challenge in environmental permitting and planning: mobile data collection in remote, disconnected areas where Terracon specialists regularly found themselves working. FactorEarth developed Record, an application that enables seamless offline collaboration in the field and syncs data online in seconds. Practitioners can collect data, finalize edits, and export submission-ready deliverables in customizable formats such as PDF or JSON. Another platform, Pro, incorporates augmented reality for heads-up geospatial data display to immerse professionals in the dataset for real-time in-field analysis. These innovations streamline workflows and improve efficiency for environmental permitting and planning projects by allowing users to do more with the data, both in the field and in final reporting.

Information Technology: Rapid Critical Issues Analysis

Jacobs

Jacobs' Rapid Critical Issues Analysis (Rapid CIA) application modernizes early-stage environmental review by putting self-service spatial analysis directly in the hands of project managers and clients. Users upload project boundaries and, within minutes, screen sites against more than a dozen national environmental and cultural resource datasets. The platform automates intersection analysis, enables project comparisons, and generates request-based outputs—including data tables, standard figures, GIS map packages, and Word reports populated with AI-generated narratives. These structured outputs accelerate advanced mapping and enable both technical

and non-technical users to independently explore site constraints, routing options, and alternative scenarios. By combining robust geospatial analytics, repeatable templates, and AI-driven summaries, Rapid CIA significantly reduces the time and cost of Critical Issues Analysis while improving consistency across projects. The result is faster, more confident early-stage siting decisions that keep projects agile, data-driven, and aligned with environmental and community considerations from the outset.

Information Technology: Modeling Fish Movements

Kleinschmidt Associates

Developed by Kevin Nebiolo, Senior Scientist at **Kleinschmidt**, Emergent™ is a Python-based modeling framework that simulates how individual fish move through complex river systems using agent-based modeling. Unlike traditional approaches that treat fish as uniform particles responding only to hydraulics, Emergent represents each fish as an autonomous agent with its own energy budget, fatigue state, and behavioral responses to environmental cues such as flow, velocity, shallow water, obstacles, and interactions with other fish. This behavior-informed approach captures schooling dynamics and collective decision-making that strongly influence passage success but are invisible to conventional models. Emergent integrates hydraulic outputs from tools such as HEC-RAS to create realistic river environments where fish react dynamically. The model tracks movement, energy use, and fatigue, generating outputs including trajectories, passage success rates, heat maps, and animations. By revealing behavioral patterns such as preferred corridors, congestion points, and variable passage outcomes, Emergent provides transparent, reproducible insights that support improved fish passage design, flow management strategies, and ecological performance at hydropower and river infrastructure sites.

Information Technology: DGI Strategy for River Habitat

Mott MacDonald

The Maritime Exchange for Delaware River and Bay (MEX) Data Gathering Initiative (DGI) centralizes data in the Delaware River Estuary, the largest freshwater port in the world, to help applicants generate informed permit applications. MEX is a private, non-profit organization that has functioned for over 150 years, involved in shipping and associated waterfront and port facilities, domestic and international trade and, more recently, support related to regulated marine and waterfront dredging and construction for the maritime community. When Delaware River was identified as Critical Habitat for Atlantic Sturgeon (Acipenser oxyrinchus) in 2017, the MEX Private Berth Dredge Committee (PBDC) hired **Mott MacDonald** environmental specialists to develop a database with geolocated information within the estuary. Easy and free access to this comprehensive database would facilitate MEX members and the riverfront community understanding regulatory requirements in river and coastal areas and deliver projects that demonstrate awareness by avoiding and minimizing impacts to river biological community. Mott MacDonald managed and designed this project, assisting MEX's PBDC in developing DGI strategy. ICI Innovations developed the platform for this freely accessible GIS and digital database with over 200 pieces of scientific information. The NOAA National Marine Fisheries Service fully funded this project.

PROJECT MERIT AWARDS

Project Merit: Sustainability Model for Rio Grande Watershed

AECOM

The Rio Grande watershed is vital for water users, recreation, and ecosystems, and has a highly dynamic channel that has shifted dramatically over the past century. To address challenges in the Lower San Acacia Reach, including channel perching, conveyance losses, and declining ecosystem health, the Bureau of Reclamation is investing in the future of a functioning river by realigning approximately 15 miles of the river south of Socorro, N.M. This innovative approach works with natural geomorphic trends to improve water conveyance to Elephant Butte Reservoir and downstream, maintain and enhance ecosystem health, and maximize long-term maintenance benefits. AECOM is partnering with the Bureau of Reclamation in a four-year environmental program with robust stakeholder engagement and regulatory compliance. Published in November 2025, the Draft Environmental Impact Statement analyzed two realignment alternatives for potential project impacts on the natural and human environment. This project exemplifies forward-thinking river management by integrating engineering, science, collaboration, and resilience to secure water resources and improve habitats.

Project Merit: Wastewater Treatment

American Foods Group/Public Water Supply District #2

The Wright City Wastewater Treatment Facility represents a transformative investment in public infrastructure. It replaces a lagoon-based system that no longer met the community's needs or evolving environmental standards. The project was made possible by a public-private

partnership between Public Water Supply District #2 and American Foods Group (AFG). The upgraded WWTF is designed to treat up to 3.5 million gallons per day (MGD), meeting current demand, allowing for future expansion, and accommodating AFGs new beef processing facility. It allows Wright City to support residential development, commercial growth, and industrial operations without compromising environmental quality or regulatory compliance. The facility incorporates advanced biological nutrient removal, critical for protecting the Peruque Creek watershed and meeting stringent regulatory limits. It uses high-efficiency equipment to reduce energy consumption and modular systems for easier maintenance. Dual power services provide electrical supply resilience and backup generators can maintaining full compliance during outages. All infrastructure is located above the 100-year floodplain, protecting the facility and providing uninterrupted operation. This project replaced aging infrastructure with a modern, scalable, resilient system. It improves public health, protects waterways, and supports economic development. It demonstrates how thoughtful engineering can create lasting value for both public and private stakeholders.

Project Merit: Complex Site Investigation

Cascade Environmental

Aquifer Drilling and Testing (ADT), a Cascade Company, executed a complex, multi-location investigation spanning more than a year across all five boroughs of New York City, Long Island, Westchester County, and lower upstate New York. The project required two to eight multi-staff crews operating simultaneously at separate sites, demonstrating remarkable coordination and adaptability. Field activities included water-based operations and ATV mobilizations to remote islands off Long Island to collect soil classification and engineering data. In addition to environmental and geotechnical sampling, crews performed cone penetration testing and opened more than 75 test pits to visually confirm subsurface conditions and utility locations. These efforts provided critical data for planning large trenches, utility runs, and upgrades to power and transformer stations. The scale and complexity of this project demanded collaboration among multiple project managers and field teams to meet strict timelines and client expectations. Coordinating logistics across diverse environments and collecting accurate, actionable data were essential to support planning for major utility upgrades.

Project Merit: Residential Water Testing

Citadel EHS

In 2024, four large public housing communities in Watts—Nickerson Gardens, Imperial Courts, Jordan Downs, and Gonzaque Village—became the focus of one of the most consequential environmental justice investigations undertaken in Los Angeles. Following community concerns and preliminary findings published by the Better Watts Initiative, the Housing Authority of the City of Los Angeles launched an accelerated, large-scale evaluation of lead in drinking water. According to the Los Angeles Department of Water and Power, this investigation represents the largest residential water quality testing initiative ever conducted in the City of Los Angeles, involving nearly 3,000 water samples collected and analyzed. Citadel EHS was retained to lead and manage the technical effort, providing the scientific leadership, project coordination, data interpretation, and mitigation planning needed to carry out an initiative of historic scale and high public scrutiny.

Project Merit: Community-Based Water Infrastructure

Corvias Infrastructure Solutions

Corvias Infrastructure Solutions LLC (CIS), in partnership with the Unified Government of Wyandotte County/Kansas City, Kansas (UG), launched a $150 million initiative to deliver community-based water infrastructure projects, including stormwater upgrades, combined sewer separation, and green stormwater infrastructure. The award reflected both the scale of the engineering effort and CIS's capacity to manage complex, multi-year municipal programs. The initiative is delivered through CIS's Community-Based Partnership (CBP) model, which emphasizes workforce development, expansion of the regional contractor base, and local hiring. By prioritizing businesses in economically disadvantaged neighborhoods, the program is designed to generate lasting socioeconomic benefits alongside infrastructure improvements. The $150 million portfolio is expected to form a cornerstone of UG's federally mandated 25-year consent decree program, which anticipates approximately $900 million in sewer and stormwater investments. Early phases of the CBP initiative have also been supported by significant Water Infrastructure Finance and Innovation Act (WIFIA) financing, estimated between $78 million and more than $100 million, to accelerate implementation.

Project Merit: Environmental Data Management for Mines

ddms (de maximis Data Management Solutions)

In 2025, **ddms, Inc.** partnered with Freeport McMoRan Americas (FMI) to centralize environmental data management across FMI's mining portfolio, establishing a standardized platform for water quality data with a roadmap to incorporate soil, sediment, air, and other media. The initiative replaced decentralized spreadsheets and legacy systems with EarthSoft's EQuIS, implemented in collaboration with ddms. The program emphasized out-of-the-box configuration, standardized templates, and portfolio-wide governance to provide leadership with consistent visibility into compliance and performance. A joint ddms–FMI team accelerated delivery across governance, data migration, inputs, and reporting while facility cohorts supported rollout, training, and testing to ensure adoption and data quality. Key outcomes included standardized dashboards, validation of complex sampling workflows under real operating conditions, and structured signoff processes that produced flexible, user-friendly reporting tools. The re-

sulting data foundation improves accuracy and comparability across sites, supports informed leadership decision-making, and positions FMI to expand integrated analytics and sustain strong environmental performance at scale.

Project Merit: Pilot for Complex Legacy Contamination

EA Engineering, Science, and Technology

The Torch Lake Drum Removal Pilot Study exemplifies environmental innovation and collaborative problem-solving in the face of complex legacy contamination. Led by a multidisciplinary team from EA Engineering, Science, and Technology, Inc., PBC and contractor J.F. Brennan Company, the project tackled the daunting challenge of assessing potential removal methods for hundreds of deteriorated drums from the bottom of Torch Lake—a site impacted by historical mining operations. Working with the EPA Great Lakes National Program Office, the pilot used mechanical removal methods in water depths up to 80 feet, overcoming significant safety and visibility obstacles.

The team developed and tested environmental controls to minimize sediment resuspension and protect water quality. Continuous water quality monitoring and pre- and post-construction surveys using sonar and underwater video ensured rigorous assessment of environmental outcomes. Coordinating with government agencies, local property owners, and the local public action council, the team fostered transparency and trust through open houses and regular community updates. Innovative removal techniques, robust data collection, and adaptive management yielded valuable lessons for future remediation efforts. The project not only advanced environmental protection and sustainability but also delivered economic benefits to the local community. The methodologies now inform larger-scale cleanup operations and best practices for the marine construction industry.

Project Merit: Dam Breach Modeling

East Bay Municipal Utility District

Dam breach modeling is a critical life-safety tool, yet traditional deterministic approaches capture only a single assumed outcome, masking the uncertainty that drives real risk. To address this gap, the East Bay Municipal Utility District, in partnership with Kleinschmidt Associates, implemented a probabilistic dam breach analysis for Dike 2 at Camanche Reservoir in Northern California. The reservoir is retained by multiple earthen embankments, and earlier deterministic studies suggested that a Dike 2 failure would produce moderate downstream impacts. By treating breach parameters as statistical distributions and running thousands of Monte Carlo simulations, the project team revealed a broader range of plausible outcomes—including several with significantly higher peak discharges and downstream stages than the original deterministic case. Results demonstrated that the previous parameter likely under-represented potential consequences. The team used the probabilistic findings to recalibrate the deterministic scenario, producing a more conservative and defensible basis for emergency planning, consequence assessments, and risk communication. The project showcases how probabilistic analysis enhances, rather than replaces, traditional methods—supporting clearer emergency action planning, better-targeted mitigation investments, and more transparent dialogue with regulators. As risk-informed decision-making becomes standard across the industry, this work provides a practical and replicable model for advancing dam safety practice.

Project Merit: Landfill Remediation

ET Environmental Corp.

ET Environmental Corp., LLC's North Temple Landfill Remediation Project exemplifies project merit through innovation, partnership, and measurable progress in 2025. This project, conceived in 2018, broke ground in early Spring. During Phase 1, the project successfully surpassed the 50% soil remediation milestone, with more than 475,000 cubic yards remediated toward a total of 950,000 cubic yards, marking a significant achievement in one of the region's most complex environmental cleanups. Central to this success was ET's partnership with Ninigret Management and the Utah Inland Port Authority, and the implementation of the Wind-Aided Intensified eVaporation (WAIV®) system in collaboration with Leachate Management Specialists. This cutting-edge, on-site leachate management solution replaces traditional off-site hauling with a natural, energy-efficient evaporation process that leverages Salt Lake City's semi-arid, windy climate. Since startup, the WAIV system has evaporated over 900,000 gallons of leachate, exceeding performance expectations while reducing emissions, operational costs, and reliance on external wastewater treatment facilities. By combining innovative engineering, proactive environmental stewardship, and strong public-private collaboration, the North Temple project demonstrates how large-scale remediation can successfully convert brownfield projects to developable land.

Project Merit: Water Treatment System Design

Groundwater & Environmental Services

Water Treatment Contaminated with hydrocarbons and PFAS at a Petroleum Storage Terminal : Partial collapse of a large above-ground storage tank at a petroleum terminal necessitated transfer of the product to an empty open top tank. The local fire department required that water and AFFF be applied to the product during transfer, resulting in a 1.5-million-gallon mixture of product, AFFF, and brackish river water. **Groundwater & Environmental Services Inc.** (GES) was contracted to treat the water to meet the discharge permit requirements for the facility. GES designed a treatment system with organoclay, granular activated carbon (GAC), and DEXSORB (plant-based absorbent) media. Initial testing indicated

that the system was not effectively removing PFAS because they were binding with colloidal material from the brackish water and inhibiting the sorptive medias. Bench, jar, and column testing were conducted to evaluate pretreatment methods. A pilot system with chemical precipitation, clarification, filtration, GAC, and DEXSORB was fabricated and successfully met permit conditions. The demonstrated pretreatment process was incorporated into the original full-scale system. The liquid mixture varied as the tank was emptied, requiring constant adjustments in pretreatment. The pretreatment system process improved water color and clarity, reduced odor, and consistently reduced turbidity levels from >300 NTU to <10 NTU. GES treated more than 1.5 million gallons of liquid in full compliance with permit requirements.

Project Merit: Sustainable Watershed Remediation

HSG

Herndon Solutions Group (HSG) partnered with the Bureau of Land Management (BLM) to advance remediation strategies in the Bonita Peak Mining District, one of the nation's most complex Superfund sites. HSG investigated more than 40 mine-impacted locations using a watershed-level approach, evaluating features such as draining adits, waste rock, tailings, and groundwater interactions to determine their influence on water quality and ecological risk. This holistic methodology enabled BLM to prioritize cleanup actions at sites with the greatest potential to improve downstream water quality and reduce human and ecological exposure. In addition, HSG developed a comprehensive database integrating decades of historical data with new field investigations, creating a centralized resource for long-term management. The program transitioned in 2025 from active remediation to long-term monitoring, marking a milestone in restoring water quality and safeguarding public lands. By combining technical innovation, data-driven decision-making, and local workforce engagement, HSG delivered a model for sustainable watershed remediation that strengthens environmental stewardship and community resilience.

Project Merit: Process Facility Optimization

IOSight

"Optimization" in process facilities can be interpretated in many ways – from a straightforward SCADA project to an individual unit process improvement. According to **IOSight**, it's very proud of all the smart algorithm-based applications it has delivered, but the Viamaris desalination plant overall process optimization project, delivered in 2024-2025 and still being finetuned, "is something else!" The Viamaris project integrates all process units, accounts for tens of complex variables and constraints, solves the aquation in real time and recommends the best performance mode for the next 8 hours/shift. Plant managers declared that the project contributed to a 1.5% energy savings; considering the size of the plant at 90 million cubic meters per year, that's a lot of energy and money saved.

Project Merit: Cleanup at Knolls Atomic Power Lab

North Wind Site Services

North Wind Site Services LLC successfully completed decontamination and demolition (D&D) and soil remediation of the Q-Complex at Knolls Atomic Power Laboratory (KAPL) on schedule. The Q-Complex consisted of seven obsolete structures and below-grade solid waste management units (SWMUs) impacted by radiological, RCRA, and TSCA contamination. From 2021-2025, North Wind characterized, decontaminated, and demolished the buildings; implemented Interim Corrective Measures for SWMUs and soils; transported and disposed of over 28,000 tons of waste; and restored the site for future use. Success was driven by a fully integrated team of the Department of Energy, Naval Reactors, and KAPL working collaboratively to ensure project goals were met, minimizing impacts to the active facility, and addressing all issues. Key strategies included coordinating limited site area and road access with concurrent construction sites, using real-time modeling and cost estimating to address unexpected soil contamination quickly, and providing timely data to the New York Department of Environmental Conservation for regulatory approvals.

Project Merit: Large-Scale River Restoration

RES

The Klamath River Renewal Project is the largest dam removal and river restoration effort in American history. Dam removal commenced in 2023 and was completed over a 16-month period. This project, aimed primarily at saving the river's Chinook salmon from extinction, has opened more than 400 stream-miles of historical salmon, steelhead, and lamprey habitat that had been blocked for over a century. RES serves as the ecological restoration provider across 37 miles of river. Our work includes replanting 2,200 acres of formerly inundated reservoir footprints using more than 20 billion native seeds representing 100 plant species and intensively restoring four priority tributary channels buried beneath the reservoirs. Ecological recovery is already underway alongside ongoing restoration and monitoring. Just two weeks after dam removal was completed, Chinook salmon were observed in Oregon's Spencer Creek—the first documented salmon sighting in Oregon's Klamath waters in over 100 years. Restoration has been grounded in years of collaboration with Tribal partners, including Basin-sourced native seed collection by Tribal crews hired by RES. Real-time water quality monitoring is occurring across 236 miles of river, setting a new benchmark for large-scale river restoration, habitat reconnection, and collaborative environmental recovery.

Project Merit: Energy Efficiency at Molson Coors

Salas O'Brien

Salas O'Brien partnered with Molson Coors and equipment manufacturer Krones to deliver a high-efficiency filler and pasteurizer line replacement at Molson Coors' Albany, Georgia facility. The up-

graded system was completed in 2025 and supports the beverage company's commitment to sustainable brewing and modern production. Through innovative process engineering and close collaboration, the project achieved: 30% reduction in steam use through localized heat recovery; 20% reduction in power demand for the water chiller by shifting from continuous to punctual cooling; 20% reduction in water treatment load by optimizing pasteurizer water quality; and 10% decrease in pumping requirements, lowering the load on the cooling tower. These efficiencies enable water mass balance and energy reuse within the equipment while also eliminating three process chemicals and their pumps, improving operator safety and reducing environmental impact. The system now produces 1,600 cans per minute and lessens operator workload. This collaboration demonstrates how thoughtful engineering and strong partnerships can drive measurable progress in energy efficiency, water conservation, and safety—setting a new standard for sustainable operations across the food and beverage industry.

Project Merit: Waste Diversion

SCS Engineers for Kern County

A state-of-the-art covered aerated static pile (CASP) facility, designed by SCS Engineers and located next to Kern County's Shafter-Wasco Landfill in California, can divert 100,000 tons of organic waste from landfills annually. The facility includes 32 CASP bunkers and can produce 40,000 tons of finished compost annually. CASP composting offers faster decomposition, better temperature and moisture control, and significantly reduced odors. The modern facility supports Kern County and its incorporated cities in meeting organic waste recovery and procurement plans, waste diversion from landfills, and greenhouse gas reduction goals. It supports California's overarching Senate Bill 1383 mandates while strengthening Kern County's leadership in sustainable materials management. By transforming organic materials into high-quality compost -yard trimmings, food scraps, and other biodegradable materials—into nutrient-rich compost, the end-product supports local properties and agriculture, enriches community landscapes, and reduces landfill use, improving regional air quality. This facility is far more than just another improvement to Kern County's solid waste infrastructure—it is a cornerstone of its commitment to sustainability and response to landmark legislation driving the state's organics diversion and zero-waste initiatives.

Project Merit: Water Treatment Plant Modernization

Stanley Consultants

Stanley Consultants and **Dowl Engineering** for helping modernize the City and Borough of Wrangell's water treatment plant to meet growing demand. Home to 2,300 residents on a remote island in southeast Alaska, Wrangell relies on two reservoirs for its water supply. The former water treatment plant, using ozonation and slow sand filtration, struggled to address seasonal turbidity, color and high organic content. The solution was a new facility employing dissolved air flotation technology with multimedia filtration, which is highly effective at removing turbidity and organic material. Incorporating machine learning coagulant dosing capability—a first in Alaska and rare in the continental U.S.—the plant can react in real time to changes in water quality, optimize chemical use and provide data-driven recommendations for minor adjustments that significantly improve efficiency. Usable portions of the old facility were reconfigured and repurposed while the design leveraged 3D BIM technology for advanced modeling and asset management, uncommon in rural Alaska. By increasing treatment capacity from 1.8 to 2.26 million gallons per day, the plant supports residential growth and the expanding fish processing industry. It combines innovative technology, sustainable water management and repurposed infrastructure to protect public health, conserve the local watershed and demonstrate proactive environmental stewardship.

Project Merit: AI in Safety Management

Sundance Consultants, A True Environmental Company

This project represents the institutionalization and expansion of artificial intelligence (AI) enabled safety management within Indian Affairs during FY2025. Building on capabilities recognized in 2024, Sundance achieved deployment, operational use, and strategic integration of AI-enabled tools within the Indian Affairs Safety Management System (Safety Connect), transforming innovation into an enterprise safety function. During FY2025, these capabilities were advanced and embedded through innovative, scalable automation—including AI-enabled Internal Control Review reviews, performance dashboards, and reporting workflows—supporting nationwide safety oversight. Sundance modernized Safety and Occupational Health Program Evaluation and Code Compliance processes and provided technical support for system integration, automation, and workflow development.

A mobile-optimized, centralized platform enabled regional safety managers to submit inspections, corrective actions, and reports electronically, improving consistency, accessibility, efficiency, quality and timeliness. A core innovation was the integration of AI into the ICR Power App, enabling guideline-based quality review, reducing administrative burden, accelerating report delivery, and ensuring Section 508-compliance. These efforts aligned directly with the FY2025 OFPSM Strategic Plan's emphasis on data-driven program delivery and DOI's objective to protect people and property through infrastructure and innovation. Collectively, this work demonstrates how award-recognized innovation has been operationalized into a durable, scalable, nationwide safety management capability supporting continued expansion.

Project Merit: Post-Fire Cultural Resource Inventory

Sundance Consultants, A True Environmental Company

Sundance Consultants completed the critical milestone of Class III Cultural Resource Field Inventories on over 40,000 acres in the Vale District of Oregon which experienced significant recent wildland fire activity not seen in over a decade. Our work located and recorded historic and precontact archaeological resources and documented paleontological finds to facilitate avoidance of significant resources during Post Fire Emergency Forest Stabilization and Rehabilitation (ESR) activities Work was performed at the Little Valley, Cow Valley, Durkee, and Hole in Ground fire locations. This work enabled ESR work to prevent further damage to life, property and natural resources and the restoration of the ecosystem, to restore land health and restore habitats. The work was performed on tight schedule, in rugged terrain and in tough post fire environmental conditions to enable emergency forest restoration and post fire stabilization to be conducted.

Project Merit: Sustainable Redevelopment in Chicago

Terracon Consultants

Terracon Consultants' first-of-its-kind Green Era anaerobic digester project was developed on a brownfields site in the underserved Chicago southside. The project was made possible through brownfields funding from USEPA, Illinois EPA (IEPA) and Green Era partnerships with the City of Chicago and the Illinois Department of Commerce and Economic Opportunity. The community had a vision to clean up this nine-acre brownfields site to address environmental and health issues; redevelop it with an anaerobic digester to convert food waste to nutrient rich soil; and use the soil for urban farming, thereby improving the "food desert" situation and the community's quality of life. Terracon evaluated sustainable remediation options and developed BMPs to enable sustainability and resilience during the remediation: these included alternative engineered barriers, in situ hazardous lead remediation, and implementing remediation during site development to reduce environmental footprint. The IEPA No Further Remediation Letter was obtained, and the anaerobic digester was up and running in 2025. The Green Era anaerobic digestion facility recycles food waste to produce renewable energy and nutrient-rich compost for urban farms while generating jobs and increasing access to fresh, healthy food. The project received the Illinois Clean Energy Champion Award and exemplifies how sustainable redevelopment can transform neglected spaces into sustainable hubs of opportunity and innovation.

Project Merit: Remediation for U.S. Navy Clean Program

Triquetra Joint Venture

Triquetra III, a joint venture uniting Stantec, Tetra Tech and APTIM, was selected by NAVFAC Southwest for an eight-year, single-award task order supporting the Navy's CLEAN program, with work expected to reach $240 million in capacity. The team will investigate and design remedies for complex environmental challenges on Navy and Marine Corps installations, including PFAS contamination and other hazardous substances. The scope includes preliminary assessments, site inspections, remedial investigations, feasibility and pilot studies, and remedial design, enabling faster, defensible decisions and measurable risk reduction.

Projects will be delivered primarily across California, Nevada, and Arizona, with additional work anticipated in Washington, Hawaii, and other Pacific locations, bringing consistent practices to diverse geographies. Triquetra III builds on the team's long-standing collaboration with the U.S. Navy, including enterprise decision support innovation for encroachment management and major waterfront planning and design – experience that strengthens program governance, quality assurance, and stakeholder engagement. Together, the JV companies combine deep federal program expertise, advanced remediation research, and proven delivery methods to accelerate investigation, cleanup, and closure, setting a high bar for environmental restoration across NAVFAC Southwest's portfolio.

Project Merit: Sustainable Mine Closure

True Environmental

Mount Nansen Mill Demolition marks a major step toward cleaning up one of Yukon's most challenging legacy mine sites. Abandoned in 1999, the former gold and silver mine posed significant environmental risks. In fall 2025, the Mount Nansen Remediation Limited Partnership—a joint venture between **Ensero Solutions** (A True Environmental Company) and JDS Energy & Mining Ltd.—began tearing down the mill, a key milestone in making the area safe for people, wildlife, and the environment. Funded by Crown-Indigenous Relations and Northern Affairs Canada, this work was delivered in partnership with Carmacks Development Corporation and SUBLATUS Environmental, creating jobs and training opportunities for citizens of the Little Salmon/Carmacks First Nation. The project reflects a commitment to reconciliation and sustainable mine closure, integrating traditional knowledge and rigorous environmental standards while supporting local businesses. The demolition advances long-term remediation, scheduled to begin in 2029, and sets the stage for returning the land to pre-mining use. By combining technical expertise with community collaboration, the Mount Nansen project demonstrates how partnerships can transform contaminated sites into a positive environmental legacy for future generations.

Project Merit: Ag-to-Urban Water Management

True Environmental

In 2025, Matrix New World Engineering, a **True Environmental** company, delivered a landmark achievement for Forestar (USA) Real Estate Group Inc. by

securing Arizona's first Certificate of Assured Water Supply (CAWS) under the innovative Ag-to-Urban Groundwater Conservation Program for the Heritage West subdivision in Buckeye. This milestone was reached through a rigorous process: Matrix completed a hydrogeologic study and a 100-year groundwater model, then navigated evolving state regulations and modeling challenges to ensure compliance and sustainability.

With the passage of Senate Bill 1611, Matrix guided Forestar through the new Ag-to-Urban process, relinquishing 210.59 acres of irrigation rights for 31,588.5 acre-feet of Groundwater Savings Credits. Matrix submitted the new Ag-to-Urban application on the very day the law took effect, and ADWR confirmed its completeness with no additional comments required. The project will support construction of 825 single-family homes while saving approximately 437 million gallons of water annually compared to historic agricultural use. This achievement sets a precedent for sustainable development in Arizona, enabling smart growth while protecting vital water resources. Matrix's expertise, innovation, and collaboration have paved the way for future projects, making Heritage West a model for responsible water management and urban expansion.

Project Merit: Remedial Investigation at Former Defense Site

Weston Solutions

The Former Charlestown Naval Auxiliary Landing Field (CNALF) Remedial Investigation (RI) is a large-scale, high-impact initiative under the Defense Environmental Restoration Program, showcasing collaboration, innovation, and environmental stewardship. Spanning 630 acres in Charlestown, Rhode Island, this World War II-era airfield now hosts Ninigret Park, a multi-purpose public recreational facility, and the Ninigret National Wildlife Refuge, a vital coastal habitat supporting rare plants, birds, bats, and New England cottontail propagation. The project protects Rhode Island's largest coastal salt pond, the oyster industry, and community drinking water sourced from the sole-source coastal aquifer. **Weston Solutions Inc.**, in partnership with the U.S. Army Corps of Engineers (USACE), is addressing extensive chemical contamination, including per- and polyfluoroalkyl substances (PFAS) from legacy landfills and former fire training areas, as well as impacts to water supply wells.

Advanced methodologies ensure defensible data from thousands of analytical samples and hundreds of monitoring wells. Results are integrated across drinking water, soil, groundwater, surface water, porewater, and sediment using U.S. Environmental Protection Agency (EPA) Method 1633 for PFAS, supported by 3D plume visualization modeling to guide risk assessments and remedial decisions. Through stakeholder collaboration and transparent public engagement, the CNALF RI sets a benchmark for PFAS investigations at Formerly Used Defense Sites.

Project Merit: Rapid Response Mobile Turbidity Reduction System

Weston Solutions

When Tropical Storm Helene struck Asheville, N.C. on September 27, 2024, it delivered 14 inches of rain and caused severe infrastructure damage. Mudslides sent debris into Bee Tree Reservoir, elevating turbidity beyond the capacity of the City's three water plants. This severely impacted the water supply and left 156,000 residents without potable water for seven weeks. To address the water quality issue, the U.S. Army Corps of Engineers (USACE) Wilmington District partnered with **Weston Solutions Inc.** through the Bering-Weston Joint Venture (BWJV), to design and install a mobile turbidity reduction system (TRS). Within 48 hours of award, BWJV mobilized a rapid-response team to restore water quality. Construction was completed by January 12, 2025, and the system was operational by January 16, 2025.

The system integrated dissolved air flotation units, sand and bag filters, filter presses, and advanced conveyance systems. The team focused on commissioning, performance testing, and seamless integration with existing infrastructure, ensuring reliability and regulatory compliance. This innovation reduced turbidity to 1.5 nephelometric turbidity units (NTU), safeguarding public health and achieving regulatory compliance. The TRS processed up to 5 million gallons per day. USACE rated the project "Very Good," citing BWJV's ability to exceed requirements under a compressed schedule.

Project Merit: Wastewater Infrastructure

Woodard & Curran

The Back Cove South Combined Sewer Overflow Storage Facility is a prime example of how expertise, creative problem solving, and public-private collaboration can make an immense impact on the environmental health of a community. Woodard & Curran performed project design for the new 3.5-million-gallon Back Cove South Combined Sewer Overflow below-grade storage facility. Engineering work included site/civil, environmental, structural, hydraulic and conveyance, mechanical, electrical, plumbing and instrumentation, and controls disciplines. In addition to critical stormwater infrastructure, the firm incorporated resilience measures to enhance and protect valuable public amenities on the project site.

The socio-economic wellbeing of the Greater Portland Region is tied intrinsically to the health of Casco Bay. Portland's classic New England waterfront and proximity to maritime industry and recreation are a major draw for residents, businesses, and visitors. This project contributes to cleaner water and a healthier environment that are paramount to a thriving community. The Back Cove South CSO storage facility is actively reducing overflows to Casco Bay. As intended, this integrated stormwater management measure provides flexibility in flow management for the City's overall sewer system and decreasing cumulative overflow volumes by up to 88 percent. Statewide, this project reduces overall CSO volume by approximately 50 percent.

TECHNOLOGY MERIT AWARDS

Technology Merit: Thermal Treatment for PFAS

Cascade Environmental

TerraTherm, a Cascade Company, partnered with Colorado School of Mines and conducted a successful pilot demonstration of a patent-pending thermal treatment technology for PFAS-impacted soil and sediment at Peterson Space Force Base, Colorado Springs, Colo. Funded by the Department of Defense's Environmental Security Technology Certification Program (ESTCP, ER-8372), the project aimed to evaluate emerging PFAS destruction methods. During the demonstration, PFAS-contaminated sediment was heated to 400°C, and extracted vapors were treated in a specially engineered thermal catalyst at 600°C. This process resulted in the removal and mineralization of all target PFAS and precursors to below part-per-trillion detection levels. Stack sampling (OTM-45, 50, and 55) confirmed the destruction of PFAS, products of incomplete combustion, and volatile fluorinated compounds, with no emissions above quality control detection levels. Fluorine was safely sequestered as inert metal fluorides, and emissions of HF were minimal.

Technology Merit: PFAS Decontamination

AECOM, TRS, Denver International Airport

Airports face significant PFAS contamination challenges due to decades of aqueous film forming foam (AFFF) use in firefighting. With the EPA's 2024 designation of PFOA and PFOS as hazardous substances under CERCLA, airports must comply with environmental regulations while transitioning to PFAS-free foams. Denver International Airport (DEN), partnered with AECOM and **TRS Group, Inc.,** leads the way in decontaminating Aircraft Rescue and Fire Fighting (ARFF) vehicles using an innovative closed-loop cleaning system. After offloading the AFFF concentrate, the system circulated heated water mixed with a cleaning agent through the ARFF vehicle, functioning like a continuous washing machine; three to five cycles were completed. Between pre-cleaning and post-cleaning analytical results, PFAS levels dropped by an average of 98.72%. This thorough cleaning process enabled safe conversion from AFFF to fluorine-free foam (F3), addressing PFAS contamination on-board complex machines without replacing vehicles, saving millions of dollars compared to purchasing new rigs. In total, 11 ARFF and nine other firefighting vehicles were cleaned, setting a national precedent for cost-effective PFAS remediation. The project included rigorous sampling, data validation, and SOP development, ensuring repeatability.

Technology Merit: Continuous Emissions Monitoring

Alliance Technical Group

Alliance Technical Group reached a major milestone in emissions monitoring innovation in 2025 with the successful demonstration and commercialization of its Integrated Path CEMS (IP CEMS). Developed through a long-standing partnership between ESC Spectrum and EPRI and strengthened by ESC Spectrum's integration into Alliance in July 2025, IP CEMS is redefining how facilities measure and report air emissions. In collaboration with LG&E, Alliance installed and certified an IP CEMS at the Cane Run Generating Station on a Part 75-affected gas turbine. Relative accuracy testing was completed in August 2025, enabling the first-ever submission of Part 75 emissions data to EPA's ECMPS using IP CEMS while a conventional CEMS was offline—establishing IP CEMS as a fully viable, EPA-recognized compliance solution rather than a backup method. IP CEMS delivers faster, more representative measurements, eliminates sample-system bias, improves uptime and reliability, and reduces O&M costs. In support of this advancement, EPA's Clean Air Power Division revised Part 75 guidance to sanction IP CEMS and remove Administrator approval requirements, clearing the path for broader industry adoption.

Technology Merit: Innovation and Prototype Center

Burns & McDonnell

Across the energy and infrastructure sectors, traditional planning methods struggle to keep pace with the speed and complexity of modern capital programs. Project teams face shrinking margins for error as they balance cost, risk, community expectations, and accelerated schedules. To meet this challenge, **Burns & McDonnell** created the Innovation Center, a purpose-built environment where immersive visualization and rapid prototyping allow clients to understand and refine decisions earlier in the project lifecycle. At the core of the Center is an LED-based, high-resolution CAVE that enables project teams, stakeholders, and elected officials to virtually experience full-scale environments long before construction begins. This ability to "walk through the project" strengthens alignment on design intent, improves constructability and safety planning, and reduces uncertainties that traditionally emerge late in design. The Innovation Center integrates real-time 3D model interaction, digital twin workflows, and rapid 3D printing to accelerate feedback cycles and reveal design conflicts sooner. These capabilities improve cross-disciplinary collaboration and create clearer communication for both technical and nontechnical audiences. Beyond project delivery, the Center supports training, client engagement, recruiting, and design workshops, making it a versatile enterprise asset.

Technology Merit: Funnel and Gate for in-situ PFAS

APTIM

Between 2020 and 2026, PFAS experts at **APTIM** developed and field-demonstrated a patent-pending Funnel and Gate system for in-situ PFAS treatment. The system uses sheet piling installed as

a hydraulic funnel to direct groundwater through a subsurface treatment gate containing anion exchange resin. Installed perpendicular to groundwater flow, it passively captures PFAS-impacted groundwater using natural hydraulic gradients, eliminating the need for active pumping. The treatment gate is designed for efficient media removal and replacement, enabling long-term operation and permanent PFAS mass removal. A 123-foot-wide Funnel and Gate system installed at a Department of Defense site has successfully intercepted a PFAS plume from an AFFF source area since August 2024. Influent PFAS concentrations exceeding 50,000 ppt are being reduced by >99.99%, achieving MCLs for regulated compounds including PFOS and PFOA. The system provides passive treatment, long-term PFAS immobilization, and lower lifecycle costs than conventional pump-and-treat systems.

Technology Merit: Technology-Enabled Wildfire Debris Removal

ECC

ECC developed and deployed advanced, AI-driven technologies that transformed delivery of the $1.7 billion USACE Los Angeles County Palisades and Eaton Fires Debris Removal Project. ECC created artificial intelligence-powered computer vision applications to detect burned vehicles, significantly improving safety, hazard identification, logistics, and removal planning. Built through rigorous data collection, annotation, iterative training, and validation, the models accurately identified thousands of vehicles, enabling optimized scheduling and accelerated operations. In parallel, ECC integrated multiple advanced commercial and proprietary technologies—including Survey123, automated data management systems, GIS, Smartsheet, ECC-developed mobile applications (Summit and Service Ticket), and Microsoft Power BI—into a unified, real-time data platform. The system tracked personnel, training and activities for more than 4,000 workers and subcontractors, debris management, GPS-based trucking logistics, property status, reporting, and community engagement. These capabilities enabled adaptive scheduling, resource optimization, and safer operations. ECC cleared 2.6 million tons of debris across 10,384 parcels in just six months—half the original schedule—achieving the fastest large-scale wildfire cleanup in history.

Technology Merit: Low-Emission Thermal Remediation

Geo Remediation Company

Geo Remediation Company advanced low-emission thermal remediation in 2025 by integrating thermal conduction heating with its Cryogenic-Compression–Condensation (C3™) system, creating a closed-capture platform capable of managing high-strength VOC, PAH, NAPL, and PFAS vapor streams with near-zero atmospheric discharge. The system routinely achieves greater than 99% vapor-phase capture, providing an uncommon level of transparency and regulatory confidence in thermal remediation performance. By recovering contaminants as liquid condensate, C3 enables near-complete mass-balance accounting, improving design certainty and clarifying contaminant-mobilization pathways. Field applications demonstrated effective contaminant removal at temperatures below 100°C, reducing energy demand while maintaining stable vapor and hydraulic control in low-permeability and high-load conditions. The approach minimizes granular activated carbon usage, eliminates combustion-based controls, and simplifies permitting at air-sensitive sites.

Technology Merit: Krysalis for PFAS Remediation

Haemers Technologies

Krysalis represents a technological inflection point in PFAS remediation as the first field-proven system that fully destroys PFAS in soil—including the most persistent short-chain molecules such as TFA and CF_4—while preserving soil for direct reuse, according to its developer **Haemers Technologies**. Demonstrated under national regulatory supervision in Denmark in 2025, the technology combines controlled thermal desorption with high-temperature wet combustion at 1,400 °C to achieve complete mineralization into stable end-products (HF, CO_2, SO_2) with no secondary waste stream. Engineered for real-world deployment, Krysalis offers modular, scalable capacity: from 200-ton units (3,500–4,000 t/year) to integrated multi-module systems treating up to 5,000 tons, enabling rapid mobilization at industrial, military, and airport sites. Operating costs of <$250/ton and energy demand of ~300 kWh/ton position it as a cost-competitive alternative to incineration and concentration-based methods, with the added advantage of onsite treatment and reduced liability.

Technology Merit: Energy Project Origination

IOWN Energy

The team at **IOWN Energy LLC** developed a cutting-edge origination software, IOWN IQ, designed to transform how energy projects move from concept to execution. Built with a focus on efficiency and transparency, IOWN IQ integrates a dynamic, decision-oriented UI with advanced GIS screening and interactive features. By combining spatial analysis with real-time risk insights, IOWN Energy empowers its team of developers to evaluate opportunities with confidence and precision. The software supports the initial review of projects and provides clear visibility into pipeline status, ensuring that every step is well-documented and optimized for viewing. Its intuitive design allows users to navigate complex data effortlessly, fostering collaboration across departments, and accelerating project timelines. Beyond functionality, IOWN IQ represents how technology is being leveraged to enable smarter resource allocation and proactive risk management. By embedding innovation into workflows, IOWN IQ not only improves operational efficiency but also sets a new standard for project origination. It stands as a transformative solution, driving growth and setting new standards for digital excellence.

Technology Merit: Environmental Monitoring and Modeling

Spheros Environmental

In 2025, **Spheros Environmental** advanced a suite of applied technologies to improve environmental compliance and sustainability outcomes. The firm's fenceline air quality monitoring framework optimized sensor placement and automated regulatory reporting, reducing compliance cycle times by approximately 30% while improving data defensibility for industrial clients. Spheros also deployed hydrodynamic simulation models to evaluate desalination brine dispersion for coastal infrastructure projects, supporting informed siting decisions and minimizing ecological impacts. By modeling circulation patterns and integrating real-time environmental data, these tools enable proactive risk management and design optimization. Additional innovations included enhanced ethylene oxide (EtO) and PFAS detection methods, increasing data resolution for complex air quality programs. Integrated digital workflows and automated dashboards further streamlined permitting and accelerated decision-making across multi-jurisdictional projects.

Technology Merit: Trash Capture

Stantec Consulting Services

Stantec Consulting Services Inc. is helping communities advance innovative trash capture solutions, transforming the fight against coastal and urban waterway trash pollution. Designed to intercept and remove debris before it reaches sensitive marine environments and beaches, these systems address the growing challenge of trash that threatens both ecological and community health. The demonstrated technology employs engineered barriers, conveyance systems, and adaptive designs tailored to local hydrology and debris types, helping ensure effective performance in diverse settings – from stormwater outfalls to tidal estuaries. Stantec has supported numerous clients in California with successful trash capture projects in major coastal watersheds. For example, the Newport Bay Trash Interceptor was the West Coast's first water wheel-powered trash collection device. Using river currents and solar energy, it drives a conveyor that lifts debris from the water, capturing up to 80% of floating trash before it impacts beaches and habitats.

Technology Merit: LIDAR for Historic Preservation

Stell Environmental Enterprises

Stell Environmental Enterprises Inc. advanced LiDAR-enabled data visualization to enhance historic preservation outcomes through an innovative digital documentation workflow at Chaco Culture National Historical Park, a UNESCO World Heritage Site requiring exceptional precision and archival integrity. Stell developed an integrated methodology that transforms high-resolution terrestrial LiDAR point clouds into structured, interpretable architectural deliverables. Using terrestrial 3D LiDAR scanning, high-resolution ortho-imagery, and geospatial control, Stell documented 85 architectural units within the Pueblo del Arroyo Great House. Resulting datasets were processed into annotated wall elevations, condition visualizations, and a digital architectural model that supports consistent measurement, comparison, and condition assessment. This work represents a shift in LiDAR use for historic preservation—from static record capture to an analytical, visual decision-support tool. Deliverables support condition assessment, treatment planning, and long-term monitoring of erosion, environmental exposure, and stabilization efforts. All products were generated in NARA-approved archival formats and integrated with AutoCAD and GIS platforms, ensuring long-term accessibility, usability, and scalability.

Technology Merit: Neptune Acoustic Monitoring

Tetra Tech

Tetra Tech Inc. developed Neptune, a patented, AI-powered marine mammal detection system that delivers advanced monitoring and data outputs while reducing false detections and reliance on offshore and onshore personnel. Protected species monitoring is required for many offshore activities due to potential impacts from underwater noise; Neptune modernizes this process through adaptive, high-accuracy acoustic analysis. Neptune can be trained to distinguish marine mammal signals from vessel- and human-generated noise and to operate effectively in new soundscapes. This significantly reduces the volume of data transmitted from offshore collection points for manual review, improving analyst efficiency and lowering operational costs. The system has achieved up to 96% accuracy in identifying certain critically endangered whale species—well above the typical 80% accuracy standard. On a recent marine construction project, Neptune reduced data transmission volumes by 40%, resulting in an overall 70% cost reduction for the client.

Technology Merit: Project Delivery Technologies

Tighe & Bond

In 2025, **Tighe & Bond** strengthened its project delivery capabilities through the strategic adoption of three advanced technologies: high-resolution 3D laser scanning, LiDAR-equipped unmanned aerial systems (UAS), and AI-enabled workflows for infrastructure asset management. These investments support greater accuracy in documenting existing conditions, improved efficiency, and more actionable, data-driven insights across the project lifecycle. High-density 3D laser scanning and drone-based LiDAR capture comprehensive site conditions early in project development, producing detailed topographic, structural, and terrain models. This approach reduces field uncertainty, enhances safety, minimizes design risk, and accelerates planning—resulting in fewer constructability conflicts and more predictable project scope, cost, and schedule outcomes. At the same time, AI-enabled infrastructure assessments significantly accelerate data processing and design analysis. Integrated with 3D scanning, AI streamlines condition assessments

and feeds directly into interactive GIS platforms, providing clients with timely, transparent insights from capital planning through project execution.

Technology Merit: Contaminated Sediment Remediation

TRC Environmental Corporation

The Adaptive Active Remediation Cap for Sediment (ARCforSe), co-invented (patent-pending) by TRC experts Nidal Rabah, PhD, PE, LSRP; John Rice, PE, PH; and Barret Culp, PG, PMP, is a novel in-situ alternative to dredging for the active remediation of contaminated sediments. ARCforSe targets hydrophobic organic compounds (HOCs), volatile organic compounds (VOCs), non-aqueous phase liquids (NAPLs), and emerging contaminants such as PFAS, including PAHs, PCBs, dioxins, and furans. Building on TRC's patented NAPL Trapping Cap and in-situ foam fractionation technologies, ARCforSe functions as an adaptive permeable reactive barrier (PRB) that contains, strips, removes, and degrades contaminants migrating from sediment or groundwater to surface water. Key processes include air sparging and groundwater circulation, vacuum extraction, soil flushing, an innovative cap-toe vent to trap NAPL, and contaminant transformation. Bench-scale, pilot, and full-scale applications have demonstrated effective removal of PCBs, PAHs, and PFAS. ARCforSe provides a green, cost-effective remedy that minimizes waste, energy use, and compliance burdens while addressing a broad range of sediment contaminants.

SOCIAL CONTRIBUTION AWARDS

Social Contribution: STEM Mentorship

Mabbett & Associates

Mabbett & Associates Inc. has identified the growing decline in Science, Technology, Engineering and Mathematics (i.e., STEM) interest and graduates nationally as a serious threat to the future of the environmental consulting and engineering industry. The American Enterprise Institute recently reported that STEM aptitude among 8th and 12th grade students is at an all-time low. A recent article by Ohio Status University reported that "fewer than 40% of students who begin studying STEM in college graduate in their chosen field. The drop-off is worse among women and students of color. That's important because the American workforce is, year by year, increasingly more female and non-white". Additionally, our country is experiencing a demographic and enrollment cliff when it comes to higher education. The U.S. birthrate has declined significantly and, thus, the number of students applying for four-year college degrees has decreased for myriad reasons. To help minimize these impacts, Mabbett has actively sponsored the Medford, Mass., High School, Science and Engineering Exhibition for the past three years. The firm has provided financial awards to prize winners, hosted a luncheon, and has provided employee judges for the event. Mabbett is currently working with Medford High School to develop and implement a mentorship and career development program to further encourage students to pursue careers in STEM.

Social Contribution: Workforce Education

Burns & McDonnell

The **Burns & McDonnell Construction Academy** is a transformative workforce initiative addressing one of the most pressing challenges facing U.S. infrastructure: the nationwide shortage of skilled construction craft professionals. With the industry needing to add nearly 454,000 workers to meet near-term demand, the Academy provides an accessible, non-degree pathway into well-paid, essential careers. Launched in 2024, the program includes a 14,000-square-foot training and assessment hub in Houston, supported by a growing fleet of mobile training units extending access to underserved communities nationwide. Through online knowledge assessments, hands-on skills evaluations, and a transparent advancement framework, the Academy supports participants from entry-level candidates to experienced craft professionals seeking advancement. By partnering with local schools, community organizations, and workforce groups, the Construction Academy builds early talent pipelines, strengthens community resilience, and expands equitable access to the skilled trades. Hundreds of participants have already completed training or assessments, directly supporting economic mobility while helping ensure the workforce capacity needed to deliver critical infrastructure across the country.

Social Contribution: Tribal Land Restoration

Klamath River Renewal Corporation

When four hydroelectric dams on the Klamath River were determined to be no longer environmentally or economically sustainable, **PacifiCorp** partnered with Tribes, states, and other stakeholders to pursue a landmark solution. The precedent-setting Klamath Hydroelectric Settlement Agreement (2016) established the Klamath River Renewal Corporation (KRRC) to implement what became the largest dam removal project in history, supported by $450 million from PacifiCorp and the states of California and Oregon. The final dam was removed in October 2024, and by fall 2025, more than 10,000 Chinook salmon had returned to the upper Klamath Basin—nearly 300 miles from the Pacific Ocean—for the first time in over a century. The project included extensive habitat and floodplain restoration, revegetation supporting tribal subsistence traditions, and the reopening of world-class whitewater recreation to the public. Approximately 2,000 acres are being conveyed to the Shasta Indian Nation, whose ancestral lands were inundated by the former reservoirs. AECOM led federal cultural resource compliance and worked closely with tribal monitors to protect dozens of culturally significant sites. In recognition of the project's historical impor-

tance, KRRC constructed a heritage trail and retained AECOM to secure National Register listing for a portion of the Shasta Indian Nation's homeland, Kikacéki, preserving its legacy for future generations.

Social Contribution: Community Service

Envirocon

Envirocon is dedicated to community service through volunteerism and philanthropy, with employees actively supporting meaningful local projects. The Dennis and Phyllis Washington Foundation—funded in part by annual contributions from Envirocon and other Washington Companies—works to improve lives by supporting programs that enhance quality of life, with emphasis on youth, economically and socially disadvantaged individuals and families, and those with special needs. In 2025, the Foundation issued $60,000 in grants to several nonprofit organizations across six communities where Envirocon executed projects, and an additional $20,000 was awarded through a "Pay It Forward" program. Funds supported children's shelter, aging services, a community college, a domestic violence shelter, parks, and sustainability programs. Envirocon's community impact is also reflected in its project work. In 2025, the firm completed a $76-million mine reclamation project for Iluka Resources in Virginia where the 4,000-acre site project won the 2025 Virginia Energy Mineral Mine Reclamation Award, and was lauded for its environmental planning, community engagement, and successful return to agricultural production.

INDUSTRY LEADERSHIP

Industry Leadership: Undergrounding Program

San Diego Gas & Electric

The team demonstrated exceptional industry leadership through delivery of a Southern California utility's Strategic Undergrounding Program (SUG). The SUG program addresses an urgent climate challenge: escalating wildfire risk driven by prolonged drought, extreme heat, and high winds. Undergrounding reduces ignition sources, enhances grid resilience, and minimizes Public Safety Power Shutoffs, protecting communities and ecosystems. This project model redefined delivery by placing the environmental team at the center, alongside engineering and construction, significantly reducing cost per mile. Efficiencies enhanced affordability and efficacy, setting a new benchmark for wildfire mitigation. The program embedded sustainability goals and worked to minimize environmental impacts. Achieving 38% Diverse Business Enterprise participation demonstrated a strong commitment to supplier diversity and inclusive economic growth. The project engaged nine Tribes through 37 meetings and secured over 500 permits/easements. This innovative model strengthens utility resilience/sustainability and sets an industry standard for wildfire mitigation and infrastructure modernization in California and nationwide.

Industry Leadership: Post-Wildfire Rapid Environmental Recovery

U.S. Army Corps of Engineers

After the January 2025 Los Angeles wildfires, the **U.S. Army Corps of Engineers** spearheaded a rapid recovery effort that cleared 12,000-plus parcels in just six months, enabling thousands of residents and businesses to rebuild. This unprecedented operation required coordination across multiple agencies while mitigating hazards such as asbestos, lead, and lithium batteries—all without harming wildlife or ecosystems. Impactful Innovation: The team deployed custom mobile and GIS-enabled apps to streamline data collection for more than 27,000 biological and archaeological monitoring forms, reducing errors and accelerating clearance timelines. Daily digital reporting ensured real-time collaboration among stakeholders, cutting rework and saving weeks of effort. Safety & Workforce Development: Working 12 hours a day, seven days a week, teams recovered priceless artifacts and documented historic structures, preserving cultural heritage. The project also served as a career-launching platform for dozens of recent graduates, pairing them with seasoned mentors to strengthen the industry's talent pipeline. This initiative exemplifies industry leadership in environmental recovery, policy coordination, and educational engagement, setting a national benchmark for resilience and innovation in climate disaster response.

50-YEAR COMPANY RECOGNITION

Salas O'Brien

Amid the energy challenges of 1975, Dan O'Brien and Carl Salas founded Salas O'Brien with a shared vision to design smarter systems and build a better world. What began as a response to the energy crisis has grown into a purpose-driven firm of more than 4,300 team members united by a passion for making a positive impact. Over the years, Salas O'Brien has expanded its reach through over 50 mergers with like-minded firms with a shared belief in empowering team members and pursuing technical excellence. This growth has fueled national recognition, including ranking #31 on ENR's Top 500 Design Firms and becoming a 13-time honoree on the Inc. 500 list. To celebrate its 50th anniversary in 2025, the firm launched 50 Acts of Community Impact to give back to the communities it serves, introduced a commemorative logo and graphics, and released its Founders' Story and 50 Years of Impact videos to honor the firm's legacy. Together, these efforts strengthen Salas O'Brien's culture of service and shared success. After five decades, the firm continues to help communities thrive through purposeful design and technical innovation. True to its founders' vision 50 years later, Salas O'Brien is engineered for impact.

EBJ LIFETIME ACHIEVEMENT AWARDS

2026 Winners: Jan Walstrom; Mike McKibben, Al Spiers; Gale Hoffnagle; Mike Gialketsis; and Dan Johnson

We welcome industry executives and their colleagues to EBI's 24th Annual Environmental Industry Summit in San Diego on April 1-3, 2026. Each spring we are delighted to bring together a new assembly of environmental industry executives, investors and analysts and thought leaders who share a common interest in the future of the environmental industry. We recognize the collective commitment to the community of individuals who have devoted their careers to the industry, to the environment and the unique biosphere that we share on Planet Earth.

The environmental industry's foundational technical challenge of environmental protection has evolved into ecosystem restoration, infrastructure reinvention, energy transition, atmospheric stability and many other challenges — and the industry and our businesses have had to change with it. The tagline we coined for EBJ in 1988 — 'Strategic Information for a Changing Industry' — remains unchanged today, more than 38 years later.

The business challenge of having the financial resources for growth, investment in technology, and providing meaningful wealth creation for our colleagues, as well as the human resources to meet corporate and societal objectives, has also evolved to the point where collaboration and information sharing helps us all.

So we welcome your active participation at our in-person events. We invite the industry to gather in the spirit of open-mindedness and collaboration, because our industry's contributions and influence on society and the economy can only be strengthened with collective energy and effort around the major challenges of the 2020s.

Grant Ferrier, Environmental Industry Summit Chairman & Founder of EBI Inc.
Publisher of Environmental Business Journal® and Climate Change Business Journal®

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NAVFAC SOUTHWEST CLEAN CONTRACT: TRIQUETRA III JOINT VENTURE

EBJ's January 23, 2026 webcast featured executives of three leading environmental consulting firms notable for their collaboration on a joint venture recently awarded an 8-year, $240 million contract with the Naval Facilities Engineering Systems Command for remediation at Navy and Marine Corps facilities across the western region. Panelists were: Kathy Vandenheuvel – Vice President – **TetraTech**; Rusty Benkosky – SVP &Regional Business Leader, US West – **Stantec**; Ulrika Messer – Senior Vice President – **APTIM**

Kathy Vandenheuvel is Vice President in Tetra Tech's EMI Division and Program Manager for the Triquetra NAVFAC Southwest Navy CLEAN Program, and San Diego Operations Manager for Tetra Tech. She holds a degree in environmental engineering and is a licensed Professional Engineer in California. She has more than 25 years of experience as an engineer and project manager on all phases of environmental projects, including agency and subcontractor negotiations; work plan preparation; client contact; monitoring well installation, development, sampling, and monitoring; remediation design and implementation; operation and maintenance of remediation systems.

Rusty Benkosky is Vice President and Regional Business Leader of Environmental Services (US West) for Stantec as program and account manager for many large commercial and industrial clients ranging from hazardous waste clean-up and multi-site remediation to helping major utility clients navigate climate change issues and the energy transition. For more than two decades, he was a program manager for a major oil company in California where, he managed more than 500 projects performing Phase I and Phase II site assessments to determine soil and groundwater conditions, corrective action plan preparation, and remediation involving at underground storage tanks, fuel terminals, pipelines, bulk plants, and industrial properties.

Ulrika Messer is a Senior Vice President at APTIM and a member of the Executive Leadership Team, leading the Remediation and Technical Solutions Strategic Business Unit. She brings over 25 years of experience directing large-scale environmental remediation, facilities, and engineering programs. Ulrika oversees a diverse organization of more than 300 engineers, scientists, technicians, and project professionals delivering complex environmental and facilities solutions. She is responsible for strategic planning, operational leadership, and execution of large, mission-critical government contracts, with a particular focus on federal environmental remediation and technical services. Ulrika holds degrees in Chemical and Environmental Engineering, is a licensed Professional Engineer in California, and is based out of San Diego.

Opening Statement

Kathy Vandenheuvel, Tetra Tech: We welcome the chance to talk about this project, the Triquetra III joint venture and federal markets. As far as my personal history, I'm a transplant from New York—so I may be West Coast-biased in my professional life, but when it comes to sports I still lean East Coast.

I moved from New York in 2000 and shortly after that started at Tetra Tech as an environmental engineer, supporting Navy environmental restoration projects. Throughout my 25 years at Tetra Tech, my career has been focused on supporting NAVFAC Southwest environmental programs. I also serve as Operations Manager for the EMI Division San Diego office, where we support NAVFAC Southwest and also do a significant amount of local work—including for the City of San Diego, the Port of San Diego, the airport, and local school districts—across a range of market sectors. Our work spans the full spectrum of environmental services. We do substantial water and wastewater work, including wastewater support during the COVID era for Sentinel programs. We also have a large energy program focused on audits—typically for large federal facilities—with staff on-site helping client facility teams.

More broadly, Tetra Tech has thousands of employees in California and is a global firm. We are close to 28,000 people and we operate across seven continents with hundreds of offices worldwide and approximately $5 billion in revenue. Over the past 25 years I've seen the company grow significantly, and I've been struck by the diversity of perspectives across the organization.

Turning to the joint venture: we are the Triquetra III Joint Venture. The name aligns with a symbol—three interlocking segments representing three companies coming together as one entity. Our tagline "A New Perspective with a Trusted Team," reflects the experience and the working relationships behind this team.

We came together specifically for this contract and this client. Tetra Tech has supported the Navy nationwide for decades; APTIM brings strong environmental restoration capabilities with innovative technologies; and Stantec has a long-standing reputation supporting the Navy and the Department of Defense. Key individuals across the three firms have worked together for many years—Ulrika and I have known each other for more than 20 years, and Doug Gilkey (our Deputy Program Manager from Stantec) previously worked for NAVFAC Southwest. Those long-term relationships helped us form the JV with the level of trust required to perform well over the life of the contract. I also want to recognize colleagues like Rich Wong and Wendy Chen who were instrumental as we built the JV—including many calls during COVID. That collaborative dynamic is a big part of what will help this team perform and hold through the contract term.

Company Profiles and JV Capabilities

Grant Ferrier, EBJ: What scale and capabilities does each firm bring to Triquetra?

EBJ Award: NAVFAC Southwest CLEAN Contract - Triquetra III Joint Venture

Triquetra III (a joint venture uniting Stantec, Tetra Tech, and APTIM) was selected by NAVFAC Southwest for an eight-year, single-award task order supporting the Navy's large-scale Comprehensive Long-term Environmental Action Navy (CLEAN) program, with work expected to reach $240 million in capacity. The team will investigate and design remedies for complex environmental challenges on Navy and Marine Corps installations, including PFAS contamination and other hazardous substances. The scope includes preliminary assessments, site inspections, remedial investigations, feasibility and pilot studies, and remedial design, enabling faster, defensible decisions and measurable risk reduction. The projects will be delivered primarily across California, Nevada, and Arizona, with additional work anticipated in Washington, Hawaii, and other Pacific locations. Triquetra III builds on the Team's long-standing collaboration with the US Navy, including enterprise decision support innovation for encroachment management and major waterfront planning and design - resulting in a mission-aligned, resilient approach that protects human health and ecosystems while supporting military readiness and regulatory compliance - setting a high bar for environmental restoration across NAVFAC Southwest's portfolio.

Kathy Vandenheuvel, Tetra Tech: Tetra Tech is a global firm with hundreds of offices and several billion dollars in revenue, and we bring decades of Navy environmental restoration experience nationwide and in the Southwest. APTIM brings strong environmental restoration capabilities and an innovation/R&D orientation, including PFAS-focused research and lab capabilities. Stantec brings a long-standing DoD reputation and deep West-region capacity. Just as important as corporate scale, the JV is built on people who have worked together for many years—including long-term relationships and customer familiarity—which creates the trust and coordination needed for a seven-year program.

Rusty Benkosky, Stantec: Stantec is roughly 34,000–35,000 people globally. In California, the environmental services practice I manage is about 700 people, and we have more than 2,000 employees across the state. We are mostly private-sector overall, so this CLEAN award is one of the larger federal wins for us and a meaningful opportunity to bring our West-region depth to a critical client.

Grant Ferrier, EBJ: Ulrika, how does APTIM's technical solutions platform and your background shape your approach to DoD cleanup work?

Ulrika Messer, APTIM: APTIM began driving the business as its own unit in 2017 under private-equity ownership, a legacy of the Shaw Group. I lead the remediation and technical solutions business as a senior executive, and we bring a sizable team of engineers and scientists. A differentiator is our research capability—including PFAS—and our own laboratory, along with participation in SERDP/ESTCP and related programs, which helps move research toward application. Personally, I'm an engineer by training with European education, where environmental responsibility is embedded in engineering practice. When I moved to the U.S. about 30 years ago, I was struck by the size and stakeholder complexity of DoD cleanup programs—those dynamics continue to shape how I think about technical rigor and community obligations.

Procurement and Team Formation

Grant Ferrier, EBJ: How far back did you see this contract coming, and what drove NAVFAC Southwest to re-compete it when they did?

Kathy Vandenheuvel, Tetra Tech: Industry had been hearing for some time that NAVFAC Southwest would re-compete its CLEAN contract, and there was a noticeable gap between the prior vehicle and this one. The major catalyst was PFAS: the workload and urgency increased materially, and the customer needed a contract vehicle in place to move that work. Through the Society of American Military Engineers (SAME) community and ongoing engagement, the signals became clearer around 2020–2021. That's when we began serious discussions about teaming and formed a JV that combined complementary experience, capacity, and long-standing working relationships.

Grant Ferrier, EBJ: What did the proposal and interview process emphasize most?

Ulrika Messer, APTIM: It was a qualifications-based (Brooks Act) procurement with a strict, structured evaluation protocol. What stood out was the interview format: NAVFAC Southwest asked genuinely challenging questions rather than simply revisiting the written submittal. The focus was whether a team could operate effectively on a mature environmental restoration program while also adapting to an emerging contaminant—especially PFAS—where priorities, standards, and implementation expectations continue to evolve.

Grant Ferrier, EBJ: Who were you competing against, and what does that say about how teams are forming in this market?

Ulrika Messer, APTIM: The Navy doesn't always tell you in advance who the other teams are, but interviews are often scheduled the same day and you can infer the field. In this competition there were two other teams with strong ties to the customer. All final offers were joint ventures—one other three-way JV and one two-way JV. That reflects a broader trend: on complex, long-duration federal programs, customers increasingly want depth across technical disciplines, proven program controls, and surge capacity—advantages that are often best assembled through multi-partner teams.

Grant Ferrier, EBJ: You mention the long-standing personal relationships connecting the members of the team, but is this the case with the client? Are there long-term personal connections on the Navy side or has staff turnover affected contract acquisition and project delivery?

Kathy Vandenheuvel, Tetra Tech: There has been substantial turnover, particularly over the past year, with early-retirement programs accelerating departures. NAVFAC Southwest has described it as one of the hardest years to be a federal employee, especially in environmental programs. The practical impact is that the customer often needs more continuity and support from its industry partners. That's where institutional knowledge across the Triquetra team matters—program history, site familiarity, and long-standing working relationships—so the contractor team can help maintain momentum even as government staffing changes.

Grant Ferrier, EBJ: What work does this CLEAN contract cover versus what other Navy vehicles handle?

Kathy Vandenheuvel, Tetra Tech: This vehicle is oriented toward investigations, risk assessment, defining the problem, and supporting the Navy through CERCLA decision steps—planning, evaluation of alternatives, stakeholder alignment, and closure pathways. Heavy construction and 'yellow iron' implementation can occur under other Navy programs and contract vehicles. In practice, our work is often the upstream technical and regulatory foundation that enables remedy selection and downstream execution.

Grant Ferrier, EBJ: How would you describe the maturity of the restoration program and where the remaining challenges sit?

Ulrika Messer, APTIM: It's a mature program, which means many easier sites have progressed and the remaining sites tend to be among the most technically challenging—often in complex regulatory and community environments. The work spans the CERCLA pipeline: some sites are early-stage investigations, while others remain active because a key technical or regulatory issue has not yet been resolved. That's why coordinated partnering and innovation matter: the Navy is looking for teams that can bring fresh approaches, manage stakeholder complexity, and move sites toward closure.

Grant Ferrier, EBJ: How prominent is small business participation, and how will subcontracting work over the life of the contract?

Kathy Vandenheuvel, Tetra Tech: Small business participation is a major execution element. NAVFAC Southwest has long been a leader in small business programs, and the environment has evolved toward small business contracting and JV-based delivery. Our proposal included more than 10 small business teaming partners, and we anticipate roughly 75% of subcontracting dollars will go to small businesses. At the same time, this is a large contract with variable technical challenges across sites, so the team expects to engage additional firms as needs arise, while honoring commitments to the initial partner set.

And I want to do a plug for the SAME San Diego Post Small Business NAVFAC SW Industry Forums: a great way to hear directly from the client what's coming out, what they are looking for, and an opportunity to network among the 600 or so folks in the industry we get here locally.

Mobilization and Priorities

Grant Ferrier, EBJ: Where are you in mobilizing the program, and how does the Navy set priorities across sites and task orders?

Rusty Benkosky, Stantec: After award, the first step is working with the Navy to map priorities—what sites they want to advance and what actions they want to take first. Broader federal dynamics can affect early momentum; for example, the prior year's government shutdown slowed the initial ramp. We've been meeting with NAVFAC to align on near-term priorities and have a solid handle on the current year, even if the full seven-to-eight-year roadmap will evolve. The value of this vehicle is that it gives the Navy a practical way to move work forward as needs and priorities change.

Grant Ferrier, EBJ: Is execution and getting to closure best described as an iterative process with moving technical and regulatory goalposts?

Rusty Benkosky, Stantec: Yes. In remediation, there are always changes. Over time, new chemicals rise to prominence—MTBE was one example in earlier decades, and now PFAS is front and center. That reality reinforces the need for an adaptable approach, strong program controls, and tight coordination with the customer as conditions and expectations evolve.

Grant Ferrier. EBJ: And with a 7-year scope and $240 million budget, how many sites do you think will go through RIFS, or preliminary screening? How many do you think may end up in construction, pump-and-treat or some form of physical treatment? Is it hundreds of sites to be evaluated, and maybe 30 or 40 will have a full-scale remediation?

Ulrika Messer, APTIM: We don't know of course, but that's not a bad guess. That's close to what we expect.

Proposal, Payments & Project Execution

Grant Ferrier, EBJ: How large was the proposal package, and what does that tell you about these awards?

Kathy Vandenheuvel, Tetra Tech: The core submittal was an SF330, so the narrative portion was very standardized—on the order of about 50 pages. But the required backup was extensive: project documentation, evaluations, and supporting exhibits, plus items such as a draft small business subcontracting plan. By the end, the compiled PDF exceeded 1,000 pages. That reflects how much evidence NAVFAC wants on relevant experience, documentation quality, and team readiness.

Grant Ferrier, EBJ: How will Triquetra decide workshare and assemble integrated teams across the three firms?

Kathy Vandenheuvel, Tetra Tech: We have a core PMO—Ulrika as Senior Technical Manager, me as Program Manager, Doug Gilkey as Deputy Program Manager, and Kirstie Gitcomb as Contract Administration Manager. As task orders come in, the PMO matches requirements to strengths: site history, contaminant mix, regulatory environment, and the best-fit leadership. That can mean a project manager from one partner, a field lead from another, and specialty support from the

third. The operating principle is to execute as one Triquetra team—integrated, not three separate entities.

Grant Ferrier, EBJ: What does cost-plus mean here, and how does the Navy's performance evaluation affect the JV financially?

Kathy Vandenheuvel, Tetra Tech: This is a cost-plus contract, which is very different from fixed-price delivery. The customer evaluates performance every six months, including whether the program is being implemented in a cost-effective way. That evaluation ties directly to the joint venture's fee/profit margin. So quality, schedule discipline, responsiveness, and efficiency are directly linked to the program's economics.

Grant Ferrier, EBJ: How transparent are rates under this model, and are rate increases 'negotiated' in the traditional sense?

Rusty Benkosky, Stantec: Rates are built from actual costs. We provided raw labor rates across a roster of employees, and the cost-plus structure is applied based on overhead—so it's not a traditional negotiation. If the Navy wants a specific person, the cost is what it is. The government also requires substantial transparency: you have to show the build-up and supporting information. That level of visibility is part of operating under cost-plus and is paired with incentives to deliver efficiently and perform well in the government's periodic evaluations.

PFAS: Health, Water, Community, and Residuals

Grant Ferrier, EBJ: Why has PFAS become such a central driver, and why is drinking water the priority lens?

Ulrika Messer, APTIM: PFAS is as much a health issue as an environmental issue. DoD has a responsibility to the personnel, their families, and surrounding communities—especially where base housing is near areas where AFFF was used historically. Under CERCLA there is still a process—investigate, evaluate options, get approvals, then execute—but the immediate emphasis has been rapid protection where drinking-water criteria are exceeded.

Kathy Vandenheuvel, Tetra Tech: We're seeing the Navy prioritize PFAS sites based on threat to drinking water—health protection is the first-order driver. The team also brought substantial PFAS experience across regions, including work supporting NAVFAC in other geographies. In some areas, groundwater-dependent drinking water systems amplify exposure risk, which reinforces the focus on drinking-water protection.

Grant Ferrier, EBJ: How do you balance point-of-use treatment with longer-term source remediation and system design?

Ulrika Messer, APTIM: There isn't one-size-fits-all. What we often see is rapid protective action—installing treatment at drinking-water supply points and, where appropriate, point-of-use filtration—while investigations define the extent of impacts. Then longer-term remedies are designed based on site conditions, available technologies, and evolving regulatory expectations. In short: reduce exposure quickly, then build durable system and source solutions.

Grant Ferrier, EBJ: In community meetings, what role do contractors play in risk communication?

Ulrika Messer, APTIM: Contractors are often asked to provide technical advice that supports the customer's public affairs and stakeholder engagement—helping explain the science, the decision pathway, and why a chosen approach is protective. Technical excellence is necessary but not sufficient; you also need to understand community concerns and help the customer communicate clearly and credibly. That combination—technical depth plus stakeholder fluency—is increasingly central to PFAS work.

Grant Ferrier, EBJ: What are the practical realities for PFAS residuals disposal—especially with regional constraints in the West and on islands?

Kathy Vandenheuvel, Tetra Tech: Residuals management is contaminant-dependent and geography-dependent. Disposal capacity, landfill limitations, and regulatory constraints can drive costs sharply—especially in remote environments such as islands—because options are limited and logistics are expensive. Ultimately, disposal pathways are evaluated by waste stream, allowable technologies, and what is available locally, and those constraints vary widely by region.

AI, Data Security, and Productivity

Grant Ferrier, EBJ: How are you using AI today, and where are the guardrails—particularly on federal work?

Kathy Vandenheuvel, Tetra Tech: AI is primarily an efficiency tool—helping with proposal drafting, data review, and early analysis—but it requires careful human review. The bigger issue on federal programs is information protection: teams must be deliberate about what data goes into any system and comply with contract security requirements. As this program ramps up, we're aligning procedures for handling sensitive information and making sure all partners understand requirements related to controlled information and secure environments.

Rusty Benkosky, Stantec: We also keep tight controls. It can be a great tool, but on federal work the priority is protecting client data and using AI only within approved environments and policies.

Grant Ferrier, EBJ: Are you seeing measurable productivity gains—and does the cost-plus model reward efficiency or penalize it?

Ulrika Messer, APTIM: We're seeing gains, especially in repetitive, data-heavy deliverables. We're building agents to speed recurring reports and to generate complex outputs like plots and GIS products more efficiently, which can reduce cycle times dramatically. Cost-plus can reward cost-effective delivery through the performance evaluation mechanism, but the industry still wrestles with how to price the value of a better product—not just the hours spent. Efficiency reduces cost, and it can also improve quality and precision; aligning pricing and incentives to that value remains an important challenge for professional services.

Remediation History & Outlook

Grant Ferrier, EBJ: In EBJ forecasts from the 1990s, we expected remediation to start declining by 2015—on the theory that we'd stopped producing asbestos and many legacy chemicals, and that we'd be "smart enough" not to create new contaminated sites. Instead, the market has kept growing. Do you see an end to the remediation business in our lifetimes—or even in our business careers?

Rusty Benkosky, Stantec: I don't. I started my career in remediation—pulling tanks and doing projects that were supposed to be "wrapped up" fairly quickly. But there's always another contaminant of concern, and new issues emerge from unintended consequences—PFAS from firefighting foam is a clear example. It's also remained broadly bipartisan. Programs like Brownfields continue to be funded because communities need to reuse and redevelop industrial sites. From what we see, remediation has been labeled a "dying business" for 30 years, yet it remains a major share of our work—roughly 30–40%—and I expect it to persist and likely grow over the next couple decades.

Federal Contracting Environment and Contract Landscape

Grant Ferrier, EBJ: Is the federal contracting environment changing for long-duration programs?

Kathy Vandenheuvel, Tetra Tech: These programs span administrations because the procurement and execution timelines are long. At the same time, there is active activity around FAR revisions and a push for procurement streamlining. We expect that emphasis on efficiency to continue, but the full implications are still unfolding. For industry teams, the practical takeaway is to stay adaptable and prepared for process changes while maintaining compliance and disciplined program controls.

Grant Ferrier, EBJ: How does this $240 million CLEAN award compare with other Navy regional CLEAN contracts?

Kathy Vandenheuvel, Tetra Tech: The Navy's CLEAN program is structured across multiple regional contracts. This one is $240 million. By comparison, the Northeast–Southeast CLEAN contract that Tetra Tech supports is larger, and the Pacific contract is also a major vehicle. One CLEAN procurement discussed in the market was approaching the billion-dollar range. The broader point is that, in the Navy's ecosystem, this is a large program—but it sits within an even larger portfolio of regional vehicles.

Rusty Benkosky, Stantec: When you look across the full suite of large federal vehicles, $240 million can be 'small compared to some of the other ones,' even though it's a major program in its own right. Scale and structure vary by region and by how the work is packaged.

PFAS Strategy: Where Dollars Go

Grant Ferrier, EBJ: Do you agree the market is polarized—investing at the source and at drinking-water exposure points, with less emphasis midstream?

Kathy Vandenheuvel, Tetra Tech: Yes—that framing is directionally right. What we're seeing is strong prioritization around high-concentration source areas (like AFFF-impacted locations) and around protecting drinking-water systems where people could be exposed. There is still important work in the middle—site characterization, fate and transport, risk evaluation, and pathway analysis—but the urgency and funding emphasis tends to concentrate on protecting health quickly and addressing the highest-concentration sources.

Business Model and Value

Grant Ferrier, EBJ: With cost-plus oversight and AI-driven efficiency, how do you think about 'pricing the value' rather than just billing hours?

Ulrika Messer, APTIM: It's an evolving challenge. Efficiency is good for the customer and it can improve performance evaluations, but the industry hasn't fully solved how to be compensated for value created by faster, higher-quality deliverables. Time-and-materials habits are deeply embedded in the culture. The opportunity is to demonstrate that efficiency is not just 'less time'—it can mean better precision, better decision support, and faster risk reduction—then structure conversations with customers around outcomes and value, not only inputs.

Grant Ferrier, EBJ: Do you see AI reducing the need for people—or increasing demand as agencies face staffing constraints?

Kathy Vandenheuvel, Tetra Tech: What we see is that staffing constraints on the government side often increase the need for capable industry support. AI can make teams more efficient, but it doesn't replace the technical judgment, accountability, and stakeholder engagement that these programs require. As people get more comfortable using these tools personally, some of the fear factor goes down—but the guardrails and review discipline still matter, especially on sensitive federal work.

Closing Perspective

Grant Ferrier, EBJ: What was your biggest takeaway from working together as a JV through award and early execution?

Rusty Benkosky, Stantec: It's one thing to propose together; it's another to implement together. Going through execution details—how we invoice, how we deliver, how we coordinate—brings companies closer. That collaboration is valuable on a long-duration program and helps create a single, coherent client experience.

Technical Decision-Making and Site Outcomes

Grant Ferrier, EBJ: How do end-use scenarios influence remedy selection—especially on BRAC or lesser used versus active bases?

Ulrika Messer, APTIM: End use matters. If an area is intended to remain open space with limited intrusion, a cap with contamination left in place can be viable. If end use is residential, cleanup goals are more stringent because exposure pathways and long-term use have to be protective. Active bases can be more straightforward in the sense that federal rules apply, while BRAC property transfer adds additional stakeholders and agreements. In California, DTSC and Regional Water Boards

are often involved, and BRAC can bring in additional state and local entities that influence both cleanup expectations and land-use decisions.

Grant Ferrier, EBJ: Across a mature program, what split do you expect between front-end assessment and full-scale remediation?

Ulrika Messer, APTIM: A reasonable expectation is that hundreds of sites may be evaluated, with a smaller subset—perhaps a few dozen—moving into full-scale remediation depending on complexity and Navy prioritization. That split between a larger pipeline of investigations and a smaller number of intensive remedy projects is consistent with how mature restoration programs progress, especially when emerging contaminants introduce new questions about toxicity, standards, and the most effective sequence of actions.

APTIM Federal Platform and Innovation

Grant Ferrier, EBJ: You mentioned APTIM's breadth beyond remediation—what is the Strategic Petroleum Reserve contract, and why does it matter for operating discipline?

Ulrika Messer, APTIM: One of APTIM's largest recent federal contracts is operating the U.S. Strategic Petroleum Reserve. Operationally, that means running and maintaining major facilities, improving them over time, and ensuring readiness when the country needs that asset. It's not a remediation contract, but it requires disciplined operations, compliance, and reliability—qualities that translate to long-duration federal programs. The SPR sites are along the Gulf Coast and are housed in underground salt domes. That kind of work reinforces our focus on structured execution, repeatable processes, and high-performance delivery under government oversight.

Grant Ferrier, EBJ: How does your European engineering background show up in the way you approach environmental work in the U.S. DoD context?

Ulrika Messer, APTIM: My education and early training in Europe reinforced that environmental responsibility is not a separate specialty—it's embedded in engineering practice. In Scandinavia, that perspective is deeply integrated, and when I studied in the UK for my master's degree, I saw a blend of approaches that, in some ways, resembles the U.S. model. When I moved to the U.S. and began working on DoD programs, the scale and complexity were striking: it's not only the contamination and migration pathways, but the breadth of stakeholders and the obligations to surrounding communities. That complexity is part of what keeps the work challenging and meaningful.

Partnering, Transparency, and the Subcontracting Bench

Grant Ferrier, EBJ: How does the JV think about maintaining commitments to current partners while staying flexible as technical needs evolve?

Ulrika Messer, APTIM: We have commitments to our existing team partners, including small businesses, and those commitments are a key part of how the contract will be executed. At the same time, this is a large program with varied technical challenges, so it's realistic to expect that additional partners may be brought in as specific needs arise—specialty analytical support, field services, or niche technologies. The goal is to keep the core team intact while remaining practical and responsive as the Navy's tasking and site conditions evolve.

Grant Ferrier, EBJ: A frequent question is whether the subcontractor list is public—how do you handle that during contract start-up?

Kathy Vandenheuvel, Tetra Tech: During start-up, some of the formal teaming and small business documentation can still be in review with the Navy. Until those documents are finalized, it's prudent not to publish lists prematurely. The key point for readers is that small business participation is central to delivery and is built into the program plan; specific partners and opportunities will be communicated appropriately through the customer's process as documents are finalized and tasking is issued.

Pacific Footprint and Regionalization

Grant Ferrier, EBJ: How do Hawaii and the Pacific Islands fit into this effort, given major facilities like Pearl Harbor?

Kathy Vandenheuvel, Tetra Tech: NAVFAC Pacific Hawaii has its own large CLEAN contract and is doing significant PFAS work under that vehicle. For this NAVFAC Southwest contract, the Pacific footprint will be clarified as tasking is issued. The practical point is that regionalization matters: contract structures, disposal constraints, logistics, and stakeholder environments can be very different in Hawaii and other Pacific locations, and that variability is part of why program planning and flexible teaming are important.

(Note: In September 2025, Naval Facilities Engineering Systems Command issued a pre-solicitation notice for the Architect-Engineer Services for the CLEAN VII contract, which has a potential value of $980 million.)

Grant Ferrier, EBJ: Thank you for sharing without compromising client privilege. I think the collective commitment you've shown to making this project work is a good signal of where the industry can—and should—do more.

Kathy Vandenheuvel, Tetra Tech: Thanks to EBJ for creating this platform for our industry. I've enjoyed the presentations you've done for our San Diego Environmental Professionals group, and I'm looking forward to the Environmental Industry Summit in April.

Rusty Benkosky, Stantec: I agree, Grant. Bringing the industry together has real value. Working closely through implementation—not just proposing—forces you to learn the details of how each firm operates, and that process has strengthened the collaboration.

Ulrika Messer, APTIM: I appreciate the opportunity to participate. It's been a privilege, and I've enjoyed the conversation.

Grant Ferrier, EBJ: Triquetra is clearly a strong team. You complement each other well. Hey, maybe we should do a five-year check-in in 2031. ◻

MORGAN STANLEY MAKES A MAJORITY INVESTMENT IN OLSSON INC.

Morgan Stanley Makes Majority Investment in Olsson, Inc.

In January 2026, investment funds managed by **Morgan Stanley Capital Partners** (MSCP), the middle-market focused private equity team at Morgan Stanley Investment Management, announced a majority investment in **Olsson Inc.**, a employee-owned engineering and design firm, including a significant re-investment by Olsson employees. Olsson, based in Lincoln, Nebraska, was founded in 1956 and has more than 2,000 employees in 35 offices throughout the United States today. Olsson offers infrastructure engineering design and consulting solutions to both public and private clients across a diverse set of end markets including technology, transportation and water infrastructure, power, industrial, federal, and others. Throughout its nearly 70-year history, Olsson has experienced tremendous success and has developed a reputation as a leader within the markets it serves. MSCP's investment in Olsson represents its fourth investment in infrastructure services, following investments in Resource Innovations, Apex Companies and Alliance Technical Group (exited in January 2026) since 2021.

Brad Strittmatter, President/Chief Executive Officer, Olsson Inc.: Brad focuses on developing and strengthening Olsson's position in the consulting industry and establishing the firm's long-term vision and strategy. He is responsible for evaluating growth strategies, allocating capital, communicating with shareholders, engaging the community, nurturing key client relationships, and recruiting and developing the next leaders for the firm. Brad has been with Olsson since 1996; he has served as an Executive Team member since 2007 and has held the titles of executive vice president and president before being named our chief executive officer and chairman in 2016. He has been a member of our board of directors since 2014 and also serves as corporate treasurer. Prior to his executive leadership, Brad served as a senior project manager and civil engineer for commercial and residential development projects, directing site layout and entitlement processes for large retail shopping and lifestyle centers located in several Midwestern and Southwestern metropolitan centers.

EBJ: Congratulations on the investment transaction with Morgan Stanley Capital Partners. As a long time privately held and then employee-owned firm, the first question is how did you overcome the inherent resistance to an external financial partner, and it's possible impacts on the culture of the business. And did the experience of a number of private companies doing somewhat similar transactions before you make a significant contribution to considering and making this decision?

Brad Strittmatter: Olsson has a long history of employee ownership which has been a cornerstone of the company's culture for 70+ years. As the conversation internally moved towards a private equity partnership, we engaged our workforce in a very transparent dialogue around the competitive landscape and our desire to compete with the best and biggest firms in our industry. As this discussion played out within the firm, it became clear that as a highly driven and motivated workforce, partnering with an investor was the best solution to achieve our goals.

Throughout that entire process, we constantly reminded ourselves of our core tenets that make up our great culture and how we would maintain, or even enhance, those attributes within a partnership structure. A key to helping our people not only get comfortable, but excited about the partnership was finding a partner that believed in a culture's impact on a business. MSCP began interacting with our business prior to closing and reinforced the belief that culture matters and is critical to future success. They differentiated themselves with their partnership mentality and creativity to provide a multitude of tools that allow employees to continue participating in and benefiting from equity value appreciation as we grow.

EBJ: The firm has been able to make some strategic acquisitions over the years and were they a challenge to complete with the ownership structure you were carrying, or did your scale allow you to fold them in without much financial heart ache or risk?

Strittmatter: Strategic acquisitions have been a key tool for Olsson as we've grown, allowing us to add new capabilities, deepen technical expertise, and expand our geographic presence. Given our ownership structure, our M&A focus was on smaller acquisitions. We are certainly excited to move forward with MSCP, continuing that successful strategy while pursuing larger acquisitions as well. Regardless of size, we remain acutely focused on ensuring strong strategic and cultural alignment with any potential partner firm.

EBJ: Presumably the executive leadership and number of key employees were required to invest back into the deal as well as take some value off the table. Is this correct? And if you are able to share some extent of that and how you represented the interests of the team with the capital partner?

Strittmatter: Both the leadership team and hundreds of employees throughout the organization reinvested meaningfully into the recapitalization with MSCP. This reinvestment is a testament to our history as an employee-owned organization and the value that management and employees see in Olsson's equity and its continued opportunity for value creation. In discussions with potential partners, we communicated from the outset that a strong employee ownership opportunity would be integral to any deal.

EBJ: Olsson has a broad base of engineering skills and talent, as well as a broad base middle of the country client base. How has the company evolved in the last 20 years? And where do you

expect the next phase of growth to come from in terms of service offerings, client categories and geographies now that you have more financial resources and a financial partner at your side?

Strittmatter: In my nearly 30 years at the firm, we have always believed in a diversified portfolio of skills, services, and geographic impact. We have continued to invest in new opportunities that have grown the firm, offering more capability to our clients and pathways for our employees. Olsson has experienced tremendous success over the last 20 years, growing revenue by approximately 10x since 2005. Our strategy of diversifying across the Technology, Transportation, Water, Federal, Power, and Industrial end markets—coupled with our broad-based technical expertise—provides multiple levers for both organic and inorganic growth. We look forward to continuing this success in the next chapter of our journey with MSCP.

EBJ: What was your personal inspiration to get into this industry in the first place, and what mentors or key learning experiences do you look back on as major building blocks to your career?

Strittmatter: I was drawn to the variety and excitement of consulting engineering. The lure of diverse projects with interesting clients and exciting challenges caught my eye early in my career. My predecessor as CEO instilled in me early on how to broaden my horizons every day and to be open to new ways of doing things. It's easy to get stuck in your ways, but to be successful in a highly competitive industry such as ours, you need to always be curious as to how things can be done differently and better. I still believe that today, nearly 30 years later. □

Both the leadership team and hundreds of employees throughout the organization reinvested meaningfully into the recapitalization with MSCP.

BLACKSTONE ENERGY TRANSITION PARTNERS ACQUIRES ALLIANCE TECHNICAL GROUP

In January 2026, Blackstone (NYSE: BX) announced that Blackstone Energy Transition Partners acquired Alliance Technical Group (ATG), a provider of environmental testing, monitoring, and compliance services. Founded in 2000 and headquartered in Alabama, ATG has grown into one of the largest full-service environmental compliance providers in North America, with more than 2,200 employees in 60-plus offices and labs across the U.S. and Canada. ATG delivers source and lab testing, continuous emission monitoring systems (CEMS), and leak detection and repair, among others – to help businesses maintain regulatory compliance and safety, while driving efficiency through ATG's data-driven insights. Alliance Technical Group represents the latest in a number of recent transactions Blackstone Energy Transition Partners has announced behind its high-conviction investment themes in electricity demand growth and the ongoing energy transition, including Maclean Power Systems, Wolf Summit Energy, Hill Top Energy Center, Shermco, Enverus, Lancium, Westwood, and others. Blackstone is the world's largest alternative asset manager, seeking to deliver compelling returns for institutional and individual investors by strengthening the companies in which the firm's groups invest. Blackstone's over $1.2 trillion in assets under management include global investment strategies focused on real estate, private equity, credit, infrastructure, life sciences, growth equity, secondaries and hedge funds. Blackstone Energy Transition Partners is Blackstone's strategy for control-oriented equity investments in energy-related businesses, a leading energy investor with a successful long-term record, having committed over $27 billion of equity globally across a range of sectors within the energy industry

Eric Kanter is a Managing Director of Morgan Stanley and is based in New York. Mr. Kanter joined Morgan Stanley in 2003 and has been a member of MSCP since 2007. He was previously a Vice President in the firm's Mergers and Acquisitions Group. Prior to joining Morgan Stanley, Mr. Kanter was an Associate at Ryan Enterprises Group, the private equity firm for the Patrick G. Ryan family. He began his career as a Management Consultant at A.T. Kearney. He serves on the board of directors of Smile America Partners, Comar, AWT Labels & Packaging and Alliance Technical Group and previously served on the board of directors of Tops Markets and PPC Flexible Packaging. Mr. Kanter holds a B.A. from Northwestern University and an MBA from The Wharton School of the University of Pennsylvania.

EBJ: Congratulations on MSCPs back to back transactions of the exit of Alliance Technical Group and the acquisition of Olsson. I don't expect it was the case but were the two deals on some kind of parallel track for your team or is the announcement within a few days a coincidence?

Eric Kanter: Officially closing on the exit of Alliance and the acquisition of Olsson in such quick succession was purely a coincidence.

EBJ: How do you view the evolution of Alliance Technical Group from when you first started, evaluating the business too what it has become now that you have exited and passed on majority ownership to Blackstone?

Kanter: MSCP transformed Alliance from a two-service air quality testing provider into a national environmental testing and compliance platform, as the business grew by ~5x in EBITDA over our 4.5-year hold period. Through disciplined execution against a clearly articulated investment thesis and value creation plan — combining sustained above-market organic growth, highly accretive proprietary M&A, and significant platform-building — MSCP repositioned Alliance into a scaled, diversified, and more durable

business. Under MSCP's ownership, Alliance expanded well beyond its legacy stack testing and LDAR offerings, building meaningful capabilities across continuous emissions monitoring systems (CEMS), laboratory testing, and environmental compliance services. These initiatives materially strengthened the business, broadened its value proposition to customers, and ultimately drove a highly competitive exit process and a strong outcome for our investors upon the sale to Blackstone.

EBJ: And why Blackstone? Is it fair to say you had no shortage of suitors to acquire your stake in the business?

Kanter: Given Alliance's performance and its position in a highly attractive sector, there was meaningful interest from the sponsor community both over the course of our ownership period and throughout the exit process. Blackstone had been tracking the company for some time, developed conviction in Alliance's growth plan and nurtured a strong relationship with management. We have tremendous respect for Blackstone and are thrilled they are Alliance's new partners. We look forward to watching the company continue to scale in this next chapter.

EBJ: For a strategic standpoint, we often view waste and emissions as manifestations of inefficiency in manufacturing or production or fuel combustion or transfer. Do you think ATG was able to develop and grow this value proposition as part of its platform of services beyond compliance and emissions monitoring, testing and control?

Kanter: While that framing can apply in some industrial contexts, it was not a primary driver of Alliance's growth during our ownership period. Alliance's demand is fundamentally regulatory in nature – as long as a facility is active and operating, testing and compliance services are required by a combination of federal, state, and local regulations. As a result, the company's growth was driven less by inefficiencies and more by the breadth and technical expertise of services required by customers across regulated end markets.

EBJ: As you helped and supported the firm as a financial partner, what do you think was most valuable that you and your firm brought to the table in terms of supporting strategic planning or acquisition , approach or acquisition execution or the backing of a well respected financial partner?

Kanter: What was most distinctive about our approach was the intentional and systematic way in which we helped Alliance develop a strategic growth plan to build a more comprehensive and diversified platform through entry into adjacent service lines. At the time of our initial investment, Alliance was a strong and well-respected business but operated in relatively narrow lanes focused only on air quality testing. A core part of our underwriting thesis was that Alliance had a clear right to win in several complementary adjacent service lines that would both enhance customer value through cross-sell and create additional long-term growth avenues (for our ownership period and beyond). Immediately following our investment, we undertook a strategic effort to identify and prioritize those segments, and over our hold period we successfully built scale across CEMS, laboratory testing, and environmental compliance. While Alliance grew roughly five-fold under MSCP's ownership, it also became a more resilient business.

EBJ: How to firms across your portfolio benefit from combined perspective or the combined perspective of the Morgan Stanley team?

Kanter: One of the core pillars of MSCP's investing approach is focusing on a select number of attractive sub-sectors where we can develop deep expertise, build executive networks, and generate differentiated pattern recognition. While we invest across broad industries, we are specialists within specific sub-sectors. Within Industrials, Environmental Services is one of those focus areas. We first invested in Alliance, subsequently invested in Apex Companies, and continue to evaluate new opportunities in that space. Our experience with Alliance has meaningfully improved how we drive value at businesses such as Apex – whether through salesforce effectiveness, pricing discipline, operational efficiency, adjacent service expansion, or M&A execution and integration. This approach extends beyond environmental services and reflects our broader belief in the value of a focused and thematic investing strategy.

EBJ: Besides building value in growing companies, what other motivations drive you to make things happen like this deal and other parts of your portfolio in infrastructure and environmental services?

Kanter: Beyond the strong returns generated for our investors, we are particularly proud of the opportunity this transaction created for Alliance's employees. We are strong believers in broad-based economic ownership, and at exit nearly 200 Alliance employees participated economically. We are proud to have played a role in helping enable that outcome. □

ATG CSO REFLECTS ON PAST AND NEW EQUITY PARTNERSHIPS

Alliance Technical Group (Decatur, AL) is the a environmental services and solutions company dedicated to helping facilities achieve their environmental goals and navigate regulatory changes. With more than 2,200 employees located in 60-plus offices across the U.S. and Canada, Alliance specializes in Environmental Compliance, On-site Testing and Monitoring, and Laboratory Testing and Analysis.

Premal Vora, Chief Strategy Officer, Alliance Technical Group; Premal Vora brings 20 years of strategic and operational experience in the energy, industrial, and public sector. Prior to joining Alliance in 2022, Premal was an Associate Partner at McKinsey, where he served energy, chemicals, and industrial customers across strategy, operations, transformation, and digital topics. At Alliance, Premal leads value creation initiatives to enable and support the company's growth plan, along with new ventures, tech enablement, partnerships, and strategy, quality, and operational excellence.

EBJ: How did partnership with MSCP help in strategy development and acquisition approach and execution from your perspective?

Premal Vora: The MSCP partnership was a successful one because, through the value creation planning process, we were able expand the idea of what Alliance could be. While we started the partnership as an air-testing player with market leadership in stack testing, we ended it as a comprehensive provider of testing, monitoring, and analysis services across air and other media.

Having strategic clarity enabled us to execute on that strategy with greater confidence. Our team had already built significant M&A capabilities, but having a focus on which adjacencies were relevant to our clients, and which were outside the fairway, allowed us to be more decisive, prioritizing acquisitions that enhanced our value proposition, and avoiding those that might be a distraction.

A great example of this was building and executing our thesis around the Laboratory Testing and Analysis space. We built our entire business model around what we call The Alliance Advantage — a set of client-centric metrics for measuring operational performance — to ensure that we provide consistent analytical solutions to our clients and meet their most pressing needs.

We've known for years that the environmental laboratory space lacked the responsiveness, timely turnaround, and compliance-centric focus needed by our industrial clients. As a service partner that relies on laboratory consistency and responsiveness to deliver our commitments, underperformance from labs also affects our reputation with clients.

So, we centered our lab network strategy around delivering that improved experience to both our industrial clients and engineering and consulting partners.

EBJ: Describe any culture changes that may have occurred during the ownership period and how this has benefited employee engagement or ownership or retention and recruitment.

Vora: We've always driven an ownership mindset at Alliance through policies such as profit sharing and talent development/career pathing. During the MSCP hold period, we increased the number of employee investors to approximately 250, which was key to driving alignment with the value-creation plan.

The other big cultural and organizational change was that the MSCP investment enabled us to invest in people, leadership, and talent to further strengthen and professionalize our business. Outside of growing our leadership team, one example of this investment is in learning and development. We were able to attract a Ph.D. in learning and development to join our team and lead the development of programs that not only strengthen our employees' technical skills but also their leadership capabilities, so they can successfully drive our teams to deliver a superior client experience and operational efficiency simultaneously.

Another example is our investment in tech enablement and AI. Technology has always been at the core of Alliance and a strategic advantage, and we've recognized that, across all our offerings, data collection, analysis, and synthesis are central to our value proposition to clients. In a rapidly changing world with the advent of AI and new agentic ways of working, we've got to evolve with it if we want to keep that strategic advantage. We've invested in core platforms and technologies that are taking our teams from a very manual process to a more intelligent, data-centric approach to testing, monitoring, and analysis that we believe is industry-leading.

EBJ: In the process of going from one private equity, sponsor to the next, how much involvement from the management team was required compared to a first significant private transaction in terms of continuing to operate and grow the business?

Vora: Having gone through the transition process before, we knew what to look out for when managing both the business and the sale process, and MSCP was a great partner in working with us on getting ahead of the process in terms of data preparation, building relationships, and ultimately putting our best foot forward for the process. It also didn't hurt that we had a larger executive team and a much stronger senior leadership team this time around, which allowed us to run this process without any business disruption or slowing down of our strategy. In fact, Alliance executed on the largest acquisition in our history — **ESC Spectrum** — in the midst of our sale process, and we were able to successfully close and drive the integration of the business while working through the transition from MSCP to Blackstone, which is a testament to our greatly improved abilities this time around.

EBJ: Presumably a new sponsor in Blackstone has similar aspirations for the company as MSCP did to grow in size, profitability and service, client or geographic regions. Where do you see opportunities for growth and optimism in the market?

Vora: During the sale process, we were really looking for a partner who understood the industrial and energy markets, as well as the strategic value proposition we offer them. Our clients are increasingly global and operate in a complex regulatory environment that requires both a nuanced understanding of regulatory frameworks and applicable rules, as well as an unwavering ability to deliver consistent, high-quality services regardless of geography. We're very excited about the Blackstone investment because, as investors in energy and infrastructure companies, many of whom are our clients, they understand the environmental challenges in the industry and recognize our role in solving them.

The Blackstone partnership is also exciting for its scale and operational support resources that they have available to us. Whether it's back-office support in procurement and technology, talent, data science, or AI, Blackstone will help us accelerate scale and further professionalize our business. Furthermore, we think the alignment in our strategy and the Blackstone team's capabilities will give us a differentiated ability to serve our clients and be a true partner. It's an exciting new chapter for Alliance. □

500+ M&A DEALS SETS THE BAR IN 2025

2025 M&A summary by Mick Morrissey and Jon Escobar of adviosry firm Morrissey Goodale

2025 marked a historic milestone for the AE industry, as it became the first year with more than 500 M&A transactions. In Morrissey Goodale's weekly 'Word on the Street' article, the advisory firm focused on the facts behind the 508 deals in 2025 and what the data told their analysts about the current consolidation and investment landscape.

In 2025, we saw for the first time ever over 500 M&A transactions in the AE industry. These 508 deals herald a new era of consolidation, more nuanced than ever before and—with the ever-growing influence of technology—brimming with opportunities for some firms and fraught with challenges for others. Let's look at some stats around these record 508 transactions last year.

Size matters: The median and average buyer sizes last year were $138.4M and $586.5M, respectively. On the other side of the deal, the median and average seller sizes were $4.1M and $27.5M. Seller size has been steadily increasing over the past five years as acquirers look to deploy capital in needle-moving investments.

Geography is destiny: California (56), Texas (52), and Florida (45) once again saw the most deal-making last year—with the three states combining to yield 30% of all consolidation nationwide. Some of the most notable deals in each of these states last year included the acquisition of Advanced Earth Sciences (Irvine, CA) by Verdantas (Tampa, FL) (ENR #81), one of our Ten Movers and Shakers to Watch in 2026; the recapitalization of leading data center designer AG&E (Dallas, TX) by LiftOut Capital (Denver, CO) (AG&E's CEO will be a guest speaker at The CEO Symposium in Dallas in May); and the acquisition of Applied Sciences (Tampa, FL) by Parsons Corporation (Chantilly, VA) (ENR #16).

Acquisitions for growth: Fully three-quarters of all transactions last year allowed acquirers to grow their businesses beyond their headquarters state. This level of cross-state-lines M&A activity is a closely watched indicator of confidence. And right now, it points to all the lights flashing green.

Come from away: One-in-ten deals in the U.S. last year involved an overseas buyer. Firms from Canada, the United Kingdom, and France led the charge into the U.S., making 29, 10, and 5 acquisitions respectively.

Past the tipping point: 47.8% of all deals last year involved an acquisition by a private equity-backed acquirer or a recapitalization by private equity. This compares with 43.2% of acquisitions involving an employee- or ESOP-owned acquirer. (The balance involved publicly traded acquirers.) So, for the first time last year, private equity drove more consolidation than employee-owned firms. Not only are we in a new world in terms of deal volume, we're also looking at a fundamentally different capitalization environment.

Morrissey Goodale Movers and Shakers in 2025

What's new with this year's Movers and Shakers? More than half of these Movers and Shakers have something in common—backing from a private equity firm. We're seeing these strategic investments accelerate deal activity, with 42% of acquisitions last year involving PE-backed acquirers or flat-out recapitalizations.

1. **ZenaTech** (Toronto, Canada) (Nasdaq: ZENA): Leading the way with 16 acquisitions last year was this fast-growing Canadian firm. Founded in 2017, ZenaTech went public on the Nasdaq in October 2024 and has since accelerated its growth through acquisition, with management stating that it is ahead of its own expected timeline. ZenaTech aims to tap into the existing network and revenue of government and developer clients, offering modernized drone services and process automation while also cross-selling new products. Last year, the firm primarily acquired surveying firms—seven of which were headquartered in Florida and the rest in AZ, CA, CO, IL, NC, OR, UT, VA, and WA. The firm picked up 180 employees through acquisitions last year.

2. **Verdantas** (Tampa, FL) (ENR #81): Backed by private equity firm Sterling Investment Partners since 2024, this integrated environmental science, engineering, and consulting firm with 2,260 employees and 99 offices announced 11 acquisitions last year—its second double-digit year. CEO Jesse Kropelnicki described the benefits of acquisitions as "strengthen[ing] Verdantas' presence in key geographic markets…expanding our team of experts… [and] enhancing our integrated approach." Verdantas leapt 32 places up the ENR Top 500 list and added almost 400 employees from tech-forward environmental science consulting firms and regional civil engineering practices across CA, CO, ME, NH, NJ, OR, and VA.

3. **Consertus** (Miami, FL): Backed by private equity firm RTC Partners, Consertus is a global capital program management and advisory firm that officially launched in October 2025 through the acquisition and integration of 10 firms. Integrated firms include OAC Services, Cotter Consulting, KKCS, and Acumenian along with technology additions such as Enstoa and Waycode. The result: a scaled CM/PM engine from New York to Seattle with sector depth in health care, aviation, public buildings, and infrastructure. The firm now stands at over 850 employees and has offices in CA, CO, CT, FL, IL, PR, NY, and WA.

4. **Salas O'Brien** (Irvine, CA) (ENR #31): Supported by a minority growth investment from Blackstone, employee-owned industry leader Salas O'Brien announced nine acquisitions in 2025. The firm, recipient of Morrissey Goodale's 2023 Best Post-Transaction Performance Award, is now approaching 5,000 employees—with over 400 employees added from acquisitions last year alone. Focused on providing a broad range of engineering and technical consulting services, Salas O'Brien's acquisitions added scale in MEP/structural, mission-critical, and facilities engineering. Chairman and CEO Darin Anderson shared "We don't

grow for growth's sake—we grow to meet evolving needs, expand our capabilities, and create opportunities for our team." Salas O'Brien welcomed firms based in CA, GA, ID, NC, NM, NY, OH, SC, and TN. Salas O'Brien rose eight spots up the ENR Top 500 this year, continuing its steady climb up the list.

5. **Trinity Consultants** (Dallas, TX): Trinity Consultants, an employee-owned firm backed by Oak Hill Capital Partners, announced 8 acquisitions that added 573 employees to the firm's talent pool. Trinity has emphasized growth through acquisition over the last 15 years and received Morrissey Goodale's 2024 M&A Best Practices Award. Now, over half of its current employees, clients, and revenue come from acquisitions. This year, Trinity notably acquired Jaros, Baum & Bolles (New York, NY), a firm ranked #235 on the ENR Top 500. Additional acquisitions were based in AZ, CA, CT, IL, MA, and OR. Trinity is ranked #66 on the ENR Top 200 Environmental Firms list, having moved up four places since 2024.

6. **LJA Engineering** (Houston, TX) (ENR #52): Half of LJA's eight announced deals were in its home state of Texas. Employee-owned industry leader LJA added almost 300 employees to its already impressive roster of talent and crossed the threshold of 3,000 employee-owners in 2025. Through its acquisitions, LJA has maintained a consistent culture and was awarded the #1 Top Workplace by USA Today in 2025. LJA advanced in transportation, land development, water, and survey/geomatics with acquisitions in AZ, FL, NC, and TX. The firm gained 15 places on the ENR Top 500.

7. **Atwell** (Southfield, MI) (ENR #70): This fast-growing industry leader was a 2025 recipient of Morrissey Goodale's Best M&A Post-Transaction Performance Award and announced seven acquisitions last year, including two by its subsidiary RVi. In 2025, it announced the largest acquisition in its history—Manhard Consulting (Lincolnshire, IL) (ENR #329)—which Atwell plans to leverage to strengthen its presence in key regional markets. In total, Atwell added over 500 employees in AZ, GA, IL, NC, TX, and WA and climbed a spot on the ENR Top 500.

8. **TIC Solutions** (Hollywood, FL) (NYSE: TIC): Launched as a rebrand of Acuren after the major merger with NV5 (ENR #26), TIC is a provider of tech-enabled testing, inspection, certification, and compliance (TICC) services and critical asset integrity solutions. Acuren and NV5 collectively completed 6 acquisitions in 2025 and now have a deep bench of talent, with 11,000 employees across 200 North American locations.

9. **Pape-Dawson** (San Antonio, TX) (ENR #69): Pape-Dawson, backed by Palm Beach Capital, announced six acquisitions in 2025. These acquisitions were focused on growing and deepening service offerings in the Southeast and added over 250 employees to the firm. The firm acquired a trio of Florida-based firms, as well as firms headquartered in GA and KS. Pape-Dawson rocketed 24 places up the ENR Top 500.

10. **AKS Engineering and Forestry** (Tualatin, OR): A newcomer to this list, AKS is a 30-year old, multi-disciplinary consulting firm providing civil engineering, surveying, natural resources, permitting, planning, and design services to a wide range of private and public clients throughout the Pacific Northwest. The firm recapitalized with Align Capital Partners in early 2025 and subsequently began a series of 6 add-on acquisitions across WA and OR, strengthening its regional presence and growing by over 60 employees.

Sellers that appear similar on paper are achieving vastly different outcomes.... In high-demand segments, a limited supply of quality sellers is meeting a growing pool of well-capitalized buyers. Elsewhere, buyer pools are thinner, and seller leverage is diminished.

Key M&A Trends in 2025

The AE industry surpassed 500 M&A transactions for the first time in 2025. Annual deal volume has now exceeded 450 transactions in the U.S. for five consecutive years, nearly double the pace of a decade ago. What many attributed to pent-up demand or IIJA-fueled enthusiasm has proven durable.

But record volume has coincided with a more unforgiving market.

Sellers that appear similar on paper are achieving vastly different outcomes. Buyers with comparable balance sheets are experiencing very different success rates. In high-demand segments, a limited supply of quality sellers is meeting a growing pool of well-capitalized buyers. Elsewhere, buyer pools are thinner, and seller leverage has diminished.

The result is not a single M&A market in the AE industry, but several operating at once.

Specific end markets are driving higher pricing: Firms serving data centers, power, water, and other long-cycle infrastructure markets are commanding disproportionate attention from both strategics and sponsors. In these segments, demand consistently outstrips supply, and double-digit EBITDA multiples have become the starting point, not the ceiling.

Even at those levels, price alone is rarely decisive. Winning buyers bring speed, certainty, integration credibility, and a clear post-close narrative. Buyers unwilling or unable to meet those requirements increasingly find themselves sidelined, often with capital left undeployed. Firms concentrated in slower-growth or more cyclical markets can still transact successfully, but the environment is different. The number of credible buyers is smaller; diligence is more intensive; valuations face heavier scrutiny; and deal structures skew more protective of downside risk.

The market is healthy across the board, but pricing power and leverage are increasingly shaped by where a firm plays.

Scale determines who competes: Roughly 85% of AE transactions involve

sellers under $5 million of EBITDA. What has changed is not the number of deals at this size, but the intensity and sophistication of the buyer universe pursuing them.

More capital is chasing the same inventory. Corporate development teams are better staffed. Private equity (PE) platforms are under pressure to deploy. As a result, high-quality firms that formally engage the market often attract 20 to 30 credible buyers.

Competition peaks in the $5 million to $15 million EBITDA range. Firms here are large enough to be strategically meaningful, small enough to be broadly accessible, and often capable of being acquirers themselves. That combination draws both strategics seeking scale and investors looking for platform entry points. Inventory is constrained, and valuations reflect it.

Above this range, the dynamic changes. In the $15 million to $50 million EBITDA range, strategic buyer participation thins and financial sponsors dominate activity. Beyond $50 million, complexity compounds, and the number of capable acquirers drops off quickly. Fewer buyers can move decisively, and fewer still can absorb the integration, governance, and capital risks involved.

At larger sizes, scale doesn't automatically expand optionality. In many cases, it reduces it.

Repeat acquirers continue to pull away: M&A in the AE industry has long been led by a core group of consistent buyers. What's different now is how many firms have proven that acquisition can be a reliable and repeatable growth strategy.

More than 80 firms completed multiple acquisitions in 2025, compared to fewer than 25 a decade ago. The top 25 acquirers now account for nearly 30% of all transactions (see: Movers and Shakers to Watch in 2026).

These buyers benefit from earlier access, established credibility with sellers and intermediaries, and internal infrastructure built for diligence, decision-making, and integration. They move faster and close more predictably. In competitive situations, that consistency carries real weight.

Infrequent buyers often struggle not because of capital, but because of process. Without the institutional muscle memory of sourcing, evaluating, closing, and integrating deals, decision cycles slow and opportunities slip away.

In today's environment, acquisition capability matters as much as balance sheet capacity.

A scaled exit cycle is forming: Between 2020 and 2022, private equity sponsors formed or recapitalized 85 AE platforms. Sixty remain under the same sponsor ownership and are now entering traditional exit windows. Many have scaled materially through sustained acquisition activity and professionalized leadership, resulting in a growing cohort of large, investor-owned firms approaching a change in ownership.

Twenty-nine PE-backed platforms transacted in 2024 and 2025, with an average hold period of just over 4.5 years, shorter than in prior AE cycles. Exit activity is increasing, but the number of scaled platforms reaching maturity is growing faster, setting up a more crowded and competitive market for larger transactions over the next 12 to 24 months.

At the same time, new investment continues. Sponsors completed 26 new platform investments in 2025, with architecture and facilities engineering—historically quieter segments for sponsors—now drawing meaningful interest.

Capital isn't leaving the AE industry. It's cycling through it.

Looking ahead to 2026: Early activity suggests 2026 could match or exceed last year's levels. Fifty transactions announced through January have already accounted for more than $4 billion in enterprise value. Financing remains available. Buyer and investor interest remains strong.

Five hundred AE deals in one year is now the benchmark to beat, but volume alone no longer explains how the market is functioning.

The more important questions are structural: how quickly the private equity exit pipeline clears, whether repeat acquirers continue to take share, how competitive tension holds at larger deal sizes, and whether the gap between the strongest outcomes and the rest continues to widen.

There is no longer a single AE M&A market. There are several, each operating under different assumptions, attracting different buyers, and producing different pathways to success. □

M&A Highlights From 2025

• Buyer scale continues to widen, with median buyer size reaching $138 million while the median seller was $4.1 million

• Geography remains highly concentrated, as California, Texas, and Florida accounted for roughly 30% of all deal activity

• Cross-border growth remains strong, with nearly 75% of acquisitions involving buyers expanding beyond their home state

• Private equity reached a tipping point, as PE-backed acquirers drove a larger share of consolidation than employee-owned firms for the first time

• A small group of buyers continues to matter a lot, with our Ten Movers and Shakers to Watch in 2026 representing 17% of total industry deal volume

Twenty-nine PE-backed platforms transacted in 2024 and 2025, with an average hold period of just over 4.5 years, shorter than in prior AE cycles. Exit activity is increasing, but the number of scaled platforms reaching maturity is growing faster, setting up a more crowded and competitive market for larger transactions over the next 12 to 24 months.

2025 A/E M&A YEAR IN REVIEW

Over the past 20 years, the firm and principals of **Rusk O'Brien Gido + Partners** have worked on business planning, valuation, ownership planning, and M&A engagements with approximately 1000 firms in the architecture, engineering, planning, and environmental consulting industries.

Steve Gido is one of the A/E industry's leading M&A advisors. For over twenty years, he has served as trusted counsel to founders, owners, executives and boards of directors in pursuing both growth and exit strategy options. Over the course of his career, he has advised on a wide number of A/E transactions, representing both buyers and sellers of all sizes and disciplines.

With 2025 in the rear view mirror, the big-picture story for the A/E industry largely remains the same. Firms across every discipline, size and geography are churning out yet another strong year of growth, revenue, profitability and backlog. In fact, leaders mostly shrugged off the tax, tariff, and policy reverberations and instead focused on an emerging 21st-century capex-driven design and construction landscape of AI-led data centers, energy infrastructure, and manufacturing hubs. Organizations continued to hire talent at all levels and opened new branch offices everywhere in numbers last seen before the pandemic. And to put an exclamation point on it all, 2025 will mark the best year ever for M&A activity.

When all is said and done, we'll finish the year with a record for A/E North America transactions, up about 6% over 2024's banner levels. Attractive valuations, exceptional financial performance, and competitive pressures have encouraged a huge seller demographic (peak late-stage Baby Boomers) to explore and engage with eager, confident buyers and investors. This vigorous activity has created a bit of industry peer pressure, with other owners and executives waiting on the sidelines to decide which growth or exit path to pursue.

M&A takeaways from 2025 include:

M&A has resulted in fewer firms to buy – To be sure, the A/E industry has been consolidating for a long time. For over two decades, an increasing number of owners have decided to "sell out" vs. "sell down", while growth-hungry buyers scaled significantly by aggressively rolling up firms. And while we remain bullish on the long-term potential of a new generation of entrepreneurs and A/E start-ups, so far they haven't kept pace with the number of companies that have disappeared through M&A. As such, we are generating more aggregate U.S. design revenue than ever before, but with fewer firms.

The following chart exhibits the spike in the number of deals over the past eight years:

Year	Number of Transactions	% Gain
2025	552	6.3%
2024	519	12.8%
2023	460	-6.7%
2022	493	2.9%
2021	479	54.0%
2020	311	-9.9%
2019	344	9.2%
2018	315	26.0%

Source Rusk O'Brien Gido + Partners

Every year includes a narrow set of serial buyers that consistently drive a sizable portion of activity, and 2025 was no different: 25% of the completed deals were completed by just 20 consolidators, each acquiring four or more firms!

Big deals yes… but many more small deals – The year was noteworthy not only for the overall number of deals but also for the signature combinations and prominent cross-border activity. WSP acquired engineering and environmental giant TRC, creating the largest power & energy platform in the U.S. Publicly traded NV5 joined forces with Acuren to create an 11,000-person integrated engineering, inspection, and geospatial organization. Stantec acquired Page, a leading A/E firm, to deepen its expertise and resources in advanced manufacturing, data centers, and healthcare. AtkinsRéalis acquired a majority stake in the prominent civil engineering consultant David Evans and Associates, while Egis purchased Lochner, a national leader in infrastructure and transportation.

On the other side of the equation, it's worth remembering that M&A numbers in the A/E industry is dominated by small sellers, fueled by aging owners with limited internal transition and succession options. Each year, 50-60% of all transactions involve A/E firms with 25 or fewer staff members, typically producing net revenue of $4-$5 million or less. The median size A/E seller this year was a 22-person firm. The breakout by seller size is below.

Target Staff	2025 Transactions	% Total
1-10	172	31.2%
11-25	146	26.4%
26-50	93	16.8%
51-100	64	11.6%
101-500	64	11.6%
500+	13	2.4%

Source Rusk O'Brien Gido + Partners

Private equity is firmly embedded across the industry – Financial sponsors now control a stake in well over 100 A/E firms of every size and discipline. Attracted to narratives such as infrastructure renewal, power/energy demands and environmental stewardship, investors have sought out companies, both as true platforms or as part of a "family of brands" model, to recapitalize, scale, and eventually sell. This year, over 15 new firms have gone the private equity route, while several A/E firms with first-stage investors have successfully sold to a new financial partner. In addition, many of these platforms remain active bolt-on acquirers. There's no denying that private equity has contributed to greater liquidity and broader governance options, along with higher valuations across the industry.

Geographic M&A priorities change – Over the last 5-10 years, CEOs and their corporate development teams, along with private equity investors, have been keenly focused on uncovering A/E targets across the south, especially in Texas and Florida. Following a "roads and rooftops" mentality of favorable migration patterns and infra-

structure and building trends, hundreds of firms across every discipline – power/energy, architecture, environmental, water, land development, surveying and MEP, among others – have been swept up in this region. And while we still feel there are consolidation opportunities widely available in these areas, we're also witnessing buyers pivot to untapped sections ripe for exploration. States with strong fiscal positions, favorable affordability, tailwinds from industrial reshoring and AI/technology investments, and access to young talent pools are part of this M&A shift.

Dramatic changes for set-aside firms may result in more sellers – There has been an increasing number of set-aside firms (woman-, minority-, and disadvantaged-owned businesses) that have sold over the past few years, particularly those that focus exclusively on public works and infrastructure. In October, the U.S. Department of Transportation published an Interim Final Rule in the Federal Register that revises the federal DBE certification process. Other individual states have followed suit. In 2026, we'll see final evaluation procedures for narrative-based applications. As a result, countless A/E firms will be required to document individual experiences of disadvantage, and transportation agencies will navigate that transition. Exactly how this will shake out, we don't know for sure. However, we believe it could prompt some set-aside business owners to explore external sale options to join larger firms that can leverage their staff talent and project experience.

M&A is dominated by small sellers, fueled by aging owners with limited internal transition and succession options... 50-60% of all transactions involve firms with 25 or fewer staff members, producing net revenue of $4-$5 million or less. The median size A/E seller in 2025 was a 22-person firm.

EPA Enforcement Down in the Trump II Administration

The **Environmental Integrity Project** reports that EPA enforcement plunged in the first year of President Donald Trump's second term, a far bigger drop than in the same period of his first term. EIP was founded in 2002 by Eric Schaeffer, the former director of the EPA Office of Civil Enforcement, with a stated mission to "protect public health and our natural resources by holding polluters and government agencies accountable under the law, advocating for tough but fair environmental standards, and empowering communities fighting for clean air and clean water."

By analyzing a range of federal court and administrative data, EIP found that civil lawsuits filed by the U.S. Department of Justice in cases referred by the Environmental Protection Agency dropped to just 16 in the first 12 months after Trump's inauguration in January 2025 — 76% less than in the first year of the Biden administration.

Trump's first administration filed 86 such cases in its first year, which was in turn a drop from the Obama administration's 127 four years earlier. The findings echo two recent analyses from the nonprofits P**ublic Employees for Environmental Responsibility** and **Earthjustice**, which both documented dwindling environmental enforcement under Trump. From day one of Trump's second term, the administration has pursued an aggressive deregulatory agenda, scaling back regulations. The push to streamline industry activities has been particularly favorable for fossil fuel companies. Trump declared an "energy emergency" immediately after his inauguration.

At the EPA, Administrator Lee Zeldin launched in March what the administration called the "biggest deregulatory action in U.S. history": 31 separate efforts to roll back restrictions on air and water pollution; to hand over more authority to states, some of which have a long history of supporting lax enforcement; and to relinquish EPA's mandate to act on climate change under the Clean Air Act. Part of the decline in lawsuits against polluters could be due to the lack of staff to carry them out. According to an analysis from E&E News, at least a third of lawyers in the Justice Department's environment division left in 2025. Meanwhile, the EPA in 2025 laid off hundreds of employees.

Top agency officials are also directing staff to issue fewer violation notices and reduce other enforcement actions. In December 2025, the EPA formalized a new "compliance first" enforcement policy that stresses working with suspected violators to correct problems before launching any formal action that could lead to fines or mandatory correction measures. "Formal enforcement … is appropriate only when compliance assurance or informal enforcement is inapplicable or insufficient to achieve rapid compliance," wrote Craig Pritzlaff, who is now a principal deputy assistant EPA administrator, in a Dec. 5 memo to all enforcement officials and regional offices.

Federal agencies like the EPA, with staffs far outmatched in size compared to the sectors of the economy they oversee, typically have used enforcement actions not only to deal with violators but to deter other companies. Pritzlaff joined the EPA last fall after five years heading up enforcement for the Texas Commission on Environmental Quality, where nonprofit watchdog group Public Citizen noted that he was known as a "reluctant regulator." The EPA doesn't always take entities to court when they violate environmental laws. At times, the agency can resolve issues through less-formal administrative cases, which increased during the first eight months of Trump's second term when compared to the same period in the Biden administration. However, most of these administrative actions involved violations of requirements for risk management plans under the Clean Air Act or municipalities' violations of the Safe Drinking Water Act.

CITADEL EHS BUILDS PRACTICES ON SAFETY & SUSTAINABILITY; INKS PRIVATE INVESTOR

Citadel EHS is an environmental, health, safety, and sustainability consulting firm serving industrial, commercial, public-sector, and real estate clients across the United States. Founded in 1993, Citadel EHS has grown into a multi-practice platform with over one hundred professionals (and quicky growing) providing EHS&S compliance, industrial hygiene, environmental remediation oversight, safety management, training, and sustainability advisory services. With approximate revenues of $13 million, Citadel has experienced consistent organic growth over the past several years, complemented by selective acquisitions that expand technical depth and geographic reach. The firm operates with a strong regional presence across the Western U.S., the Southeast, and continues to expand nationally. Citadel serves a diverse public and private client base including the world's most prominent manufacturing, entertainment, energy, infrastructure, real estate, healthcare, and government entities. Citadel's Headquarters in Glendale (Los Angeles), California was one of the first LEED Platinum EBOM buildings in the California and 1 of 84 in the country at the time.

Loren Witkin, Founder & CEO. Mr. Witkin has over 37 years of experience in environmental health safety and sustainability consulting.

EBJ: What have been the biggest drivers of Citadel's growth in recent years?

Witkin: Citadel's growth has been driven primarily by organic expansion within existing clients, supported by increased regulatory complexity, heightened safety expectations, and a broader understanding among clients that EHS performance is directly tied to operational continuity and enterprise risk. Citadel has been recently making acquisitions to deepen our bench and geography.

EBJ: What internal investments unlocked the most growth?

Witkin: The most impactful investments were organizational and cultural, including leadership development, standardized delivery models, project management infrastructure, and talent retention. Citadel has an industry high employee retention rate and best in class Client Net Promoter score.

EBJ: Why was now the right time to bring in an external investor?

Witkin: Citadel reached a point where the business had proven its scalability, resilience, and leadership depth, while still having a long runway for growth. We've long been the 'biggest small company' or 'largest small company' when it came to platform-esque infrastructure such as ERP, LMS, and company leadership and culture.

EBJ: What differentiated Broadview?

Witkin: Broadview offered cultural alignment, a long-term investment horizon, an operator-first mindset, an established track record, and just an incredible group of folks to partner with.

EBJ: What problems does this investment help solve?

Witkin: The investment supports leadership development, systems scalability, geographic expansion, and disciplined acquisitions. The traditional capital markets like banks are completely broken and place obstacles to growth. Businesses have to find alternate, like-minded capital partners to grow.

EBJ: Which capabilities are highest priority to build?

Witkin: A culture of sales. I'm not sure that anyone has landed on how best to generate sales in a professional services firm in the A/E/C space. Doer-Seller, Seller-Doer, Seller only. There are pros and cons to each. If not done properly, it's a great killer of culture and motivator of bad behavior.

EBJ: How has the market changed?

Witkin: The EHS market has shifted from reactive compliance to proactive risk management. We used to be a necessary evil or an afterthought cost center required because of regulations or litigation. The smart clients know how important a proactive strategy can be for cost management, strategic growth, employee retention, and corporate intelligence. You only have to see how Paul O'Neill transformed Alcoa Aluminum's fortune using 'safety' as a keystone habit.

EBJ: What forces are driving demand?

Witkin: Regulatory pressure, workforce safety expectations, ESG, operational risk management, and clients integration of EHS&S into everyday life.

EBJ: How are economic cycles affecting EHS spending?

Witkin: Core EHS spending remains resilient across cycles with some retraction in commercial office as we all know.

EBJ Award: Project Merit: Residential Water Testing

In 2024, four large public housing communities in Watts—Nickerson Gardens, Imperial Courts, Jordan Downs, and Gonzaque Village—became the focus of one of the most consequential environmental justice investigations undertaken in Los Angeles. Following community concerns and preliminary findings published by the Better Watts Initiative, the Housing Authority of the City of Los Angeles launched an accelerated, large-scale evaluation of lead in drinking water. According to the Los Angeles Department of Water and Power, this investigation represents the largest residential water quality testing initiative ever conducted in the City of Los Angeles, involving nearly 3,000 water samples collected and analyzed. **Citadel EHS** was retained to lead and manage the technical effort, providing the scientific leadership, project coordination, data interpretation, and mitigation planning needed to carry out an initiative of historic scale and high public scrutiny.

EBJ: How are clients evaluating ROI?

Witkin: Through incident reduction, regulatory outcomes, and operational continuity.

EBJ: What technologies are having the biggest impact?

Witkin: AI, AI, AI and data analytics being integrated into EHS&S platforms.

EBJ: How has remote monitoring changed fieldwork?

Witkin: It enables expert oversight at scale while preserving on-site expertise.

EBJ: How much have incidents decreased due to technology-enabled programs?

Witkin: Well-designed programs often achieve double-digit percentage reductions over time. We haven't scratched the surface of what AI can do with regards to predictive abilities and perhaps 100% constant surveillance (which leads to an entire conversation on privacy, psychological, and security concerns.)

Capital Partner Process

EBJ: A firm of 100 employees is unlikely to attract many private investment partners. Walk us through how you approached the capital partner process. Did you find there was strong initial interest that narrowed once firms evaluated your relative scale, or was size less of a constraint than one might expect? How did you position the firm's growth trajectory, specialization, and market opportunity to attract the right partner?

Witkin: You're right that firms of our size can fall below the traditional threshold for many private investment platforms, particularly those seeking larger consolidation opportunities. From the beginning, we were very deliberate about finding a partner who saw the trajectory of the business rather than simply its current scale. When an investor looks at our processes, client list, staff, etc., we punch far above our weight. Many firms including Broadview remarked that our systems are far more advanced than companies 10-20X our size.

Environmental consulting firms accumulate enormous amounts of institutional knowledge over time—sampling results, regulatory negotiations, remediation strategies, and health risk assessments. AI allows us to structure and retrieve that information in ways that dramatically accelerate problem solving and improve consistency..

What ultimately resonated with investors was the combination of three things: our specialization in technically complex environmental, health, safety, and sustainability services, our strong reputation in California and other high-regulation markets, and the growth potential of the platform. EHS&S consulting is not a commodity business when you're complex issues or high-stakes regulatory work. Investors increasingly recognize that firms with strong technical leadership and trusted client relationships can scale meaningfully.

We did see strong early interest, and the process naturally narrowed as firms evaluated strategic fit. Some groups were focused primarily on roll-up economics, while others were looking for a foundational platform they could grow thoughtfully over time. Our objective was never simply to find capital; it was to find a partner aligned with our culture and long-term strategy. Ultimately, the right partner saw the same opportunity we did: to build a differentiated environmental services platform anchored in technical excellence, public sector credibility, and complex problem solving.

Artificial Intelligence in Environmental Consulting

EBJ: Artificial intelligence is having a significant impact across environmental consulting and engineering. What priority workflow areas have produced the most success for you? Where have you been able to build proprietary databases or internal tools that are delivering immediate, measurable value?

Witkin: AI is beginning to transform environmental consulting in ways that go beyond simple productivity tools. At Citadel, we have focused first on high-impact workflow areas where knowledge management and pattern recognition matter most. One of the most valuable applications has been building internal knowledge systems that allow our scientists and engineers to quickly access decades of project data, regulatory interpretations, and technical precedents.

Environmental consulting firms accumulate enormous amounts of institutional knowledge over time—sampling results, regulatory negotiations, remediation strategies, and health risk assessments. AI allows us to structure and retrieve that information in ways that dramatically accelerate problem solving and improve consistency across projects.

We have also found success using AI to assist with technical document development, regulatory research, and data interpretation, which historically consumed significant professional time. By allowing professionals to focus more on analysis and judgment rather than repetitive drafting or data compilation, we're seeing improvements in both speed and quality of deliverables. Over time, I believe the firms that benefit most from AI will be those that treat it as a knowledge multiplier rather than simply a productivity tool.

AI and Pricing Models

EBJ: How have you translated AI-enabled efficiency and insight into your pricing model? Have you begun integrating AI-driven productivity gains into more innovative structures beyond traditional time-and-materials or lump-sum costing — for example, value-based pricing, performance-linked fees, or accelerated delivery models?

Witkin: Most environmental consulting work is still priced using traditional structures such as time-and-materials or fixed-fee scopes. AI hasn't fundamentally

changed that yet, but it is beginning to influence how we think about value.

Where AI is most impactful is in reducing uncertainty and accelerating delivery timelines. When we can synthesize regulatory history, project data, and technical precedent faster, clients often benefit from faster decision making and earlier risk identification. That can translate into accelerated project schedules or reduced downstream costs.

Over time, I do think the industry will evolve toward more value-based pricing models, particularly where consultants are helping clients navigate complex regulatory or environmental risk issues. In those situations, the value of the insight can far exceed the number of hours involved.

Lessons from Alcoa's Safety Transformation

EBJ; You reference the transformation of Alcoa under Paul O'Neill, when the company effectively "hung its hat" on safety as a core value driver rather than simply a compliance function. By elevating worker safety to a top strategic priority — and embedding it into performance metrics, management accountability, and daily operating culture — Alcoa reportedly improved not only injury rates but operational discipline, communication, quality, and ultimately financial performance. From your perspective, what lessons does that example hold for environmental, health, and safety leaders today and do clients respond to that proactive argument?

Witkin: The story of Alcoa under Paul O'Neill is powerful because it reframes safety not as compliance but as organizational discipline. When safety becomes a core operational priority, it forces a company to improve communication, accountability, and process management across the entire organization.

For environmental, health, and safety leaders today, the lesson is similar: when companies treat EHS as a strategic driver rather than a regulatory obligation, it often leads to broader operational improvements. Strong safety and environmental programs tend to correlate with better operational reliability, higher employee engagement, and fewer costly disruptions.

Clients increasingly understand this connection. The most forward-thinking organizations see EHS performance not just as risk avoidance but as a competitive advantage.

Sustainability as a Strategic Driver

EBJ: Your firm carries EHS in its name, but like some other organizations across the sector, has added an additional "S" for sustainability. We've seen more manufacturing companies position sustainability not just as reporting or regulatory compliance, but as a source of operational efficiency, brand differentiation, risk reduction, and stakeholder value creation. Do you have concrete examples — either from your own experience or from clients in the manufacturing sector — where a company has effectively "hung its hat" on sustainability in a similar way?

Witkin: We're seeing a similar evolution with sustainability. A decade ago, sustainability programs were often focused primarily on reporting frameworks or brand messaging. Increasingly, leading companies are integrating sustainability directly into operational decision-making and capital planning.

One example we see frequently is in manufacturing and industrial operations, where sustainability initiatives—such as energy efficiency improvements, waste reduction, or water reuse strategies—deliver measurable cost savings alongside environmental benefits. Companies that approach sustainability strategically often find it improves operational resilience while strengthening relationships with customers, investors, and regulators.

In that sense, sustainability can function much like safety did at Alcoa: as a unifying principle that drives better operational performance. When organizations "hang their hat" on sustainability in a meaningful way, it often becomes a catalyst for innovation, efficiency, and long-term value creation. □

SPHEROS MAINTAINS DISCIPLINED GROWTH AS TEAMS COLLABORATE ACROSS SERVICE AREAS APPLYING SCIENCE TO INFRASTRUCTURE

Spheros Environmental is a science-forward environmental consulting firm that works with public- and private-sector clients facing complex environmental, regulatory, and sustainability challenges. Spheros services span air quality, water resources, climate and sustainability, ecology and natural resources, impact assessment and permitting, and environmental data systems and decision-support tools. Since the company was formed, Spheros has grown through a mix of organic expansion and targeted acquisitions. Today, the firm employs approximately 420 professionals across the United States, with offices and project teams supporting work nationwide. Spheros' annual net 2025 revenues were approximately $67 million, reflecting steady growth driven by demand for technically rigorous, interdisciplinary environmental expertise, particularly in settings with significant regulatory oversight and public scrutiny. Spheros serves a diverse client base that includes utilities, oil and gas operators, industrial and mining operators, energy and energy transition-related organizations, public-sector agencies, and other entities operating in highly regulated environments.

Andra Kidd, Chief Executive Officer. Ms. Kidd leads the company's strategic direction and overall organizational leadership.

Mary Burnett, Chief Financial Officer. Ms. Burnett oversees financial planning, operational scalability, and financial governance during periods of growth.

Clinton MacDonald, SVP, Director of M&A. Mr. MacDonald leads acquisition strategy, due diligence, and integration planning.

Amanda Schumacher, VP, Director of Commercial Strategies. Ms. Schumacher is responsible for commercial strategy development, client engagement priorities, and alignment of growth initiatives.

EBJ: How has the Sphero's vision evolved since founding? What does Sphero's ultimately want to become in the environmental services ecosystem?

Kidd: When Spheros was first formed, the idea came from a simple observation. Environmental challenges were becoming more interconnected, while technical expertise was still somewhat fragmented. Clients were often trying to pull together inputs from different specialist groups and weave them into an overarching permitting strategy or research approach.

As the organization has grown, the idea of becoming a holistic, bespoke environmental advisor, at scale, has become more focused and more disciplined. We've spent a lot of time getting clear about what kind of firm we want to build – and just as importantly, what we don't want to become. We're not trying to be a generalist environmental firm, and we're not chasing volume for the sake of growth.

Instead, we focus on work where scientific judgment, regulatory context, and real-world decision-making intersect. That's where clients often need the most support, and where experience becomes especially important.

Looking ahead, Spheros aims to operate as a trusted technical advisor with even more depth in technical specialties and offered in more geographies for our clients that have a portfolio approach. In many cases, our role isn't to give clients a single definitive answer. It's to help them understand what the science is saying, how it's likely to be interpreted, and what the realistic options and tradeoffs look like when there isn't a clear or easy path forward – helping to shape the approach and the prioritization that achieve their overarching strategic goals.

EBJ Award: M&A

In 2025, **Spheros Environmental** executed four strategic acquisitions designed to strengthen technical depth and expand geographic reach: 1. With offices in Idaho, Washington, and Florida, **EcoAnalysts** (acquired January 2025) added more than 30 years of aquatic and terrestrial biology expertise, expanding Spheros' advanced taxonomic and ecotoxicity capabilities. 2. **Northwater Consulting** (May 2025) reinforced Spheros' water resources and geosciences bench from hubs in Illinois and North Carolina, supporting watershed planning and groundwater modeling. 3. **Four Peaks Environmental** (August 2025) extended ecological and data services across six states – Washington, Oregon, Idaho, Illinois, Massachusetts, and Montana – enhancing fisheries science and habitat assessments. 4. Finally, **Ironwood Consulting** (November 2025) strengthened biological resources and complex permitting expertise for energy and capital projects in Southern California and the Rocky Mountain region. The acquisitions expanded Spheros' footprint from 14 states to more than 20 and added dozens of specialists, growing the firm from 205 in January 2025 to 415 in December 2025. Combined with a 40.7% revenue increase in 2024, these transactions reflect Spheros' disciplined growth, operational resilience, and commitment to science-forward environmental solutions delivered at scale.

EBJ: What has been the primary driver behind your rapid growth?

Schumacher: A primary driver of our rapid growth has been the changing nature of our clients' operating environments. Environmental considerations have a larger role in decisions around operations, capital deployment, compliance, risk management, and public accountability than they did even a few years ago.

We've seen the strongest demand in water resource planning and management, regulated industrial and mining operations, public-sector environmental programs, and energy transition sectors –

where environmental and regulatory complexity is high and evolving quickly. At the same time, regulations continue to evolve, public visibility is higher, and long-term environmental and climate considerations are increasingly difficult to separate from near-term decisions. In these settings, environmental analysis isn't a downstream requirement; it directly influences outcomes, timelines, and risk.

At the same time, our growth has been selective. We've made a conscious effort to focus on areas where we bring deep expertise and to decline opportunities that would stretch the organization beyond its strengths. That discipline has allowed us to grow while maintaining consistency, quality, and credibility. Our ability to integrate technical depth with practical execution has positioned us to support clients in areas where the stakes are high, and the solutions are not straightforward. That alignment between our clients' needs and our core strengths has been the single largest catalyst for our growth.

EBJ: In which ways have you used organic growth and acquisition-driven growth to reinforce each other?

MacDonald: We've always viewed organic growth and acquisitions as complementary parts of the same strategy. Organic growth strengthens the core of the organization through client relationships, internal capability, and technical reputation. Acquisitions allow us to add depth where they align with that core.

When firms join Spheros, they typically bring highly developed expertise and experienced teams. Integration focuses on enabling those teams to operate effectively within Spheros while maintaining consistent standards for rigor, accountability, and quality. That includes shared systems and support where they add value, without imposing unnecessary uniformity on how technical work is performed.

This approach allows growth to reinforce itself. Organic growth creates the conditions for successful integration, while acquisitions expand our ability to address increasingly complex environmental and regulatory challenges nationwide.

We've made a conscious effort to focus on areas where we bring deep expertise and to decline opportunities that would stretch the organization beyond its strengths. That discipline has allowed us to grow while maintaining consistency, quality, and credibility.

EBJ: What internal capabilities were critical to handling rapid headcount expansion?

Burnett: One of the earliest lessons we learned is that growth puts pressure on internal systems. In smaller organizations, corporate staff often wear multiple hats and provide informal, high-touch support. As we expanded, it became critical to intentionally structure our shared services teams so they could scale alongside the business and continue delivering effective, responsive support to operational staff.

Unifying our processes and systems was equally important. Scalability is not possible without a streamlined, consistent operational foundation. We harmonized our compensation and benefits philosophy, aligned project risk tolerance and pricing expectations, standardized internal communication and collaboration tools, and built a holistic integration framework for future organizations joining Spheros.

Financial discipline was another key capability. In a period of rapid growth, it is not feasible—or prudent—to pursue every opportunity. Expansion decisions were evaluated not only on market potential, but also on our ability to support new team members effectively and maintain the rigor, quality, and responsiveness our clients expect.

EBJ: How do you maintain quality while scaling?

MacDonald: Quality doesn't scale automatically. It requires structure, reinforcement, and constant attention.

At Spheros, it starts with being clear about technical standards. Expectations around peer review, documentation, and defensibility are well understood, particularly on higher-consequence work with regulatory, legal, or public-trust implications. Peer review is treated as a core part of managing risk, maintaining credibility, and delivering high-quality products to our clients.

Leadership behavior matters just as much. Teams pay close attention to what leaders prioritize, how they review work, and how they respond when schedules or budgets are under pressure. Those signals shape culture quickly.

Capacity planning also plays a critical role. Protecting quality often means making deliberate decisions about pacing and workload. That discipline isn't always easy, but it's essential if quality is going to hold as the organization grows.

EBJ: What makes a company "acquisition-ready" for Spheros?

Kidd: For us, acquisition readiness is first assessed on whether a group will add value in our strategic growth service lines, and we also look at how a firm approaches its work and its people.

We know that the firms that integrate most successfully tend to have strong technical credibility and a clear commitment to quality. Their leaders are engaged, accessible, and invested in developing their teams. That alignment around standards and expectations matters more than polish.

Operational maturity is helpful, but flexibility is more important. Firms don't need fully built corporate infrastructure, but they do need to be open to adopting shared systems, aligning around governance, and collaborating across disciplines to create more holistic outcomes for our shared clients.

When that alignment exists, integration focuses on strengthening capabilities for our shared clients, and creating exciting career pathways for their people, rather than imposing unnecessary change.

EBJ: Are you primarily acquiring capabilities, people, geography, or client relationships?

MacDonald: Capabilities often start the conversation, but people ultimately determine success.

Strong teams with deep expertise and effective leadership are what allow capabilities to scale and client relationships to endure. Geography and client relationships matter, but only when they support the kind of work we want to do and the standards we expect.

In our experience, the most successful acquisitions strengthen multiple dimensions at once – adding technical capability, experienced professionals, and complementary client work. That balanced approach helps build an organization with depth and resilience rather than simply expanding footprint or headcount.

EBJ: What are common traits across EcoAnalysts, Northwater Consulting, Four Peaks Environmental, and Ironwood Consulting?

MacDonald: Each of these firms built its reputation through deep technical expertise within a defined area of focus. Their teams value rigor, precision, and work that stands up to scrutiny, often in complex regulatory or scientific contexts.

Another shared trait is leadership involvement. Founders and senior leaders stayed closely connected to the work and invested heavily in mentoring and professional development. That hands-on leadership helped establish strong technical standards and accountability.

They also shared a collaborative mindset. Each firm recognized the value of operating within a larger organization when it strengthened their ability to deliver high-quality work. That shared perspective made integration constructive rather than disruptive.

What's been consistent across these integrations is that the technical alignment was clear early on, but the human side took more attention. Even strong teams need time to understand new expectations, new ways of working, and how their expertise fits into a broader organization. Acknowledging that upfront has helped integrations progress more smoothly.

EBJ: What does success look like one year after an acquisition?

MacDonald: A year after an acquisition, we are no longer focused on the logistics of sound integration and are more focused on how the organization operates within Spheros, including synergistic client service, business growth, financial success, and overall employee satisfaction.

We look closely at retention, collaboration, and the consistency of work quality. We assess whether shared systems are supporting teams or creating friction, and whether people feel clear about expectations and decision-making.

From a client perspective, success often starts with continuity. If clients experience sustained quality and responsiveness, and employees feel that the company supports their ability to successfully serve clients, we consider the integration successful.

What we've learned is that complete success doesn't happen on a fixed timeline. Even when integration is going well, trust, clarity, and confidence take time to build. Paying attention to those signals – not just milestones – has become an important part of how we evaluate success.

EBJ: Where have you seen the strongest cross-firm collaboration?

Schumacher: We see the strongest cross-firm collaboration on projects where the complexity of the environmental challenge brings multiple specialties to the table. These are typically projects where air quality, water resources, climate considerations, ecosystem impacts, and operational or regulatory considerations intersect.

Much of this collaboration starts with a client need that doesn't fit neatly into one technical lane. A water resource assessment may uncover ecological sensitivities, which triggers air modeling questions or long-term climate resilience planning. As teams tackle these interdependent issues together, the partnerships deepen organically. The more they work jointly, the more they anticipate one another's needs – and over time, collaboration simply becomes how the work gets done.

What has been especially valuable is how often these connections form outside of structured processes. A technical question turns into a working session, which turns into a standing collaboration. Those organic connections have proven to create a level of familiarity that translates directly into stronger client outcomes.

Over time, this pattern has contributed to a collaborative culture where subject-matter experts seek each other out proactively. That dynamic not only enhances the quality of our solutions but also broadens the professional pathways for our team – exposing people to opportunities to lead integrated work.

EBJ: What has been more difficult about scaling than you initially expected?

Spheros: One of the most challenging aspects of scaling has been recognizing that growth introduces complexity in ways that aren't always obvious at the outset. Early on, it's easy to focus on systems, headcount, and processes. Those are important, but they're not the hardest part.

What takes more time – and more attention – is helping people adapt to new ways of working while maintaining the standards that made the organization successful in the first place. Even strong teams can feel unsettled as decision-making

Collaboration often starts with a client need that doesn't fit neatly into one technical lane....A water resource assessment may uncover ecological sensitivities, which triggers air modeling questions or long-term climate resilience planning.

evolves, roles shift, and expectations become more formalized.

We've also learned that communication needs change as organizations grow. What worked when everyone was a few conversations away doesn't scale automatically. Being more deliberate about how and why decisions are made has become just as important as the decisions themselves, and creating more communication channels has been equally important. We have adopted the strategy of communicating pivotal messages verbally in All Hands meetings and Division Town Halls, in writing through email, and via our intranet to ensure multiple avenues of communication that align with how the Spheros team consumes information.

Perhaps the biggest lesson has been patience. Progress doesn't happen evenly across teams or disciplines, and pushing too hard can create friction rather than momentum. Accepting that growth requires time, reinforcement, and adjustment has helped us approach scaling more realistically and sustainably.

EBJ: How have client expectations changed in recent years, and how has that affected environmental consulting firms?

Spheros: Client expectations have changed meaningfully in recent years, and those changes have influenced how environmental consulting firms structure and deliver their work. Increasingly, clients expect environmental considerations to inform decisions earlier in the process, often before project concepts are fully defined. They want insights that help set direction, not simply validate decisions that have already been made. This shift has moved environmental analysis from a later-stage compliance role to a foundational element of planning and strategy.

We also see clients asking more nuanced and scenario-driven questions. They're looking for guidance on how regulators may interpret results, how uncertainty should be managed, how risks should be prioritized, and what options exist when constraints conflict. That places greater responsibility on consultants to anticipate questions, address uncertainties, and communicate in a way that aligns with diverse audiences.

At the same time, scrutiny has increased. Public visibility, stakeholder involvement, and regulatory oversight mean that environmental analyses are often examined by multiple audiences with different expectations. That has raised the bar for defensibility and transparency.

For environmental consulting firms, this shift has reinforced the importance of experience, integration, and clear communication. Firms that can connect scientific analysis, regulatory context, and operational decision-making are better equipped to help clients evaluate tradeoffs and understand likely outcomes.

In many ways, the role of environmental consultants has expanded: clients increasingly rely on us not only for technical expertise, but for strategic insight in a landscape marked by complexity and accelerated change.

EBJ: Where do you see the greatest risk for environmental consulting firms over the next five years?

Spheros: One of the most significant emerging inflection points for environmental consulting firms is the rapid advancement of artificial intelligence and data-driven tools. While AI has begun to influence certain aspects of the A/E industry, its full impact on environmental work is still unfolding.

The opportunity is clear. AI can enhance data processing, pattern recognition, modeling efficiency, and certain types of documentation. But the risk lies in assuming that automation alone can substitute for professional judgment, stakeholder dialogue, regulatory interpretation, and project-specific technical understanding.

Environmental consulting often involves site-specific nuance, evolving regulatory frameworks, and defensibility under scrutiny. Integrating AI tools without compromising quality will require careful oversight, disciplined validation, and experienced professionals who understand both the technology and the environmental context in which it is applied.

There are also practical considerations. As AI increases efficiency in certain workflows, firms may need to rethink how they approach project scoping, value propositions, and how they communicate the distinction between automated tasks and expert analysis.

The firms that navigate this transition successfully will likely be those that treat AI as an augmenting tool – not a replacement for expertise – and remain disciplined about maintaining technical rigor as new technologies evolve.

EBJ: How do you balance specialization with the need for integrated solutions?

Spheros: Specialization remains essential in environmental consulting. Deep expertise is what allows work to stand up to scrutiny, particularly in complex regulatory or scientific contexts. At the same time, client challenges rarely fit neatly within a single discipline.

The balance comes from maintaining strong disciplinary foundations while creating pathways for collaboration when it adds value. Integration works best when it's purposeful, not forced. Teams need to understand when collaboration improves outcomes and when it simply adds complexity.

We've found that this balance depends heavily on culture and leadership. Specialists need to feel respected for their expertise while also being encouraged to engage across disciplines. That requires trust, shared standards, and a common understanding of quality.

Ultimately, integration should make work clearer, not more complicated. When done well, it helps clients see how different considerations connect without diluting the rigor of individual analyses.

EBJ: What advice would you give to firm leaders considering acquisition-led growth?

Spheros: One of the most important pieces of advice is to be clear about why you're pursuing growth through M&A. Acquisitions work best when they reinforce a well-defined strategy, and the firms have a strong "fit" together, almost like

puzzle pieces coming together. Ensuring cultural alignment, leadership engagement, next-generation leadership development, and strong technical standards in the firm being acquired are all important to long-term success. Even when acquisitions are a good fit, meaningful integration takes time and dedicated intention. Expect to dedicate time from your leadership and your corporate shared services to work through both systematic integration of processes and procedures, as well as long-term alignment on creating value through shared client growth strategies. Having a fully developed plan outlining how the firm will handle integration, who will lead each task, and the associated timelines will make the integration process much more successful.

Finally, leadership presence matters. Staying engaged, listening closely, and being transparent during the integration process builds trust and reduces uncertainty. That human element often determines whether an acquisition strengthens the organization or simply adds complexity.

EBJ: How has leadership had to change as the organization has grown?

Spheros: As the organization has grown, leadership has shifted from being directly involved in everything to creating clarity and alignment across teams and delegating more decision-making throughout the organization. That transition requires letting go of certain habits and trusting others to carry responsibility.

Decision-making also evolves. Leaders have to become more explicit about priorities, tradeoffs, and expectations, because informal alignment across a diverse and growing organization cannot be assumed in the way it could be within a smaller organization. That can feel slower at first, but it ultimately creates consistency to allow the organization to run faster in the long run.

Another change has been recognizing the importance of visibility. As organizations grow, people want to understand not just what decisions are being made, but why. Providing context has become a key part of leadership.

Our leadership team has become more deliberate about how we do that. In practice, that means: (1) communicating in multiple ways, (2) creating diverse workgroup teams from the organization to advise on the new decision, policy or plan, and (3) cascading messages through levels of the organization so that everyone understands the change and how it will be implemented.

Perhaps most importantly, leadership at scale is less about control and more about governance and stewardship – protecting culture, reinforcing standards, and ensuring the organization remains capable of doing high-quality work as it continues to grow and evolve. □

EBJ Award: Technology Merit: Environmental Monitoring and Modeling

In 2025, Spheros Environmental advanced a suite of applied technologies to improve environmental compliance and sustainability outcomes. The firm's fenceline air quality monitoring framework optimized sensor placement and automated regulatory reporting, reducing compliance cycle times by approximately 30% while improving data defensibility for industrial clients. Spheros also deployed hydrodynamic simulation models to evaluate desalination brine dispersion for coastal infrastructure projects, supporting informed siting decisions and minimizing ecological impacts. By modeling circulation patterns and integrating real-time environmental data, these tools enable proactive risk management and design optimization. Additional innovations included enhanced ethylene oxide (EtO) and PFAS detection methods, increasing data resolution for complex air quality programs. Integrated digital workflows and automated dashboards further streamlined permitting and accelerated decision-making across multi-jurisdictional projects. Together, these innovations shortened permitting timelines, reduced ecological risk, and strengthened operational resilience, demonstrating how applied science and technical excellence can address the evolving demands of modern infrastructure development.

BSI COMMITTED TO THE GROWING GLOBAL MARKET FOR EXTENDED PRODUCER RESPONSIBILITY

BSI Consulting is a global advisory partner dedicated to helping organizations build safer, more secure, and more sustainable operations. BSI delivers world-class expertise across environmental, health, and safety (EHS); supply chain security; sustainability; business continuity; and risk management, empowering clients to accelerate progress, strengthen resilience, and embed best-practice standards into everyday performance. With more than 5,000 experts collaborating worldwide and serving more than 80,000 clients across 193 countries, BSI Consulting operates on a scale to support organizations of all sizes and industries with multidisciplinary consultants that bring deep technical knowledge and hands-on experience with complex, multi-faceted global projects, providing tailored solutions delivered onsite, remotely, or through hybrid models. BSI's consulting services span a broad portfolio, including environmental compliance, industrial hygiene, occupational health and safety, ergonomics, well-being, sustainability and climate programs, supply chain risk and security, business continuity, and training. This wide service mix enables us to support a diverse global customer base across multiple sectors. BSI Consulting's parent organization, the **British Standards Institution** (BSI)—founded in 1901 and headquartered in London—is the UK's National Standards Body and a global leader in business improvement, supporting organizations worldwide through standards development, certification, training, and consulting services.

Ethan Redden, Circularity and Carbon Reduction Lead. Mr. Redden supports producers, brands, and retailers with packaging EPR readiness and reporting across US state programs, Canadian producer responsibility frameworks, and EU member-state schemes. His work focuses on building repeatable, audit-ready data and governance processes, from supplier engagement and packaging material categorization to methodology selection, allocation of logic, and submission preparation.

EBJ: Which forces have most influenced BSI growth trajectory?

Redden: Organizations across industries face rising regulatory and stakeholder pressure to improve environmental performance, reduce carbon emissions, manage climate risk, and adopt sustainable practices. BSI Consulting reports strong client reliance on its EHS, sustainability, and environmental compliance services, which are explicitly highlighted as core offerings that support business resiliency, reduce compliance risk, and improve environmental performance.

This global shift toward sustainability and ESG accountability continues to fuel growth in consulting engagements focused on climate impact, GHG accounting, sustainability reporting, and decarbonization.

Disruptions, geopolitical instability, and heightened expectations around supplier transparency are driving organizations to seek stronger supply chain risk management and security programs. BSI Consulting's supply chain security and risk services help clients identify, mitigate, and manage disruptions.

This structural change in supply chain dynamics significantly influences BSI Consulting's growth as companies turn to trusted partners to secure operations and gain actionable supply chain intelligence.

BSI Consulting benefits from a broad-sector footprint including healthcare, built environment, retail, aerospace, automotive, information technology (IT), and more, allowing it to grow as global clients face increasingly complex regulatory, operational, and sustainability pressures. This diversified industry mix creates a stable platform for growth and enables cross-sector expansion of BSI's consulting practices.

Organizations continue to confront disruptive events, from natural disasters to

EBJ Award: New Practice: Extended Producer Responsibility

By combining deep regulatory expertise with a strategic, lifecycle-based approach, BSI Consulting's Extended Producer Responsibility (EPR) practice is redefining how organizations address responsibility, resilience, and sustainability. Launched in 2025 in response to rapidly expanding global EPR requirements, the practice helps organizations manage product impacts from design and packaging through recovery and recycling with clarity and confidence. As EPR regulations accelerate across the United States, Canada, and the EU, demand for sustainability and regulatory consulting rose 33% in 2025. To meet this need, BSI assembled a cross-disciplinary team of regulatory specialists, sustainability strategists, and data analysts to deliver future-ready EPR solutions. The practice is differentiated by integrating EPR into broader ESG strategies, supply chain resilience, and circular economy objectives—helping clients reduce waste, improve recovery systems, lower compliance fees, strengthen brand integrity, and demonstrate measurable environmental and business value. To support the launch, BSI introduced a comprehensive EPR Guide, published two widely cited thought leadership articles on U.S. and global EPR laws, and created a dedicated EPR web page. These resources have quickly become trusted reference points for organizations navigating an increasingly complex regulatory landscape.

Disruptions, geopolitical instability, and heightened expectations around supplier transparency are driving organizations to seek stronger supply chain risk management and security programs.

geopolitical risks. BSI Consulting's business continuity, emergency management, and operational resilience services are becoming more essential as companies realize the importance of future-ready planning and enterprise risk preparedness. Governments worldwide are tightening requirements around:

- Occupational health and safety.
- Environmental compliance and permitting.
- Climate and sustainability disclosure.
- Product/industry-specific safety rules like EPR.

BSI Consulting teams specialize in helping organizations navigate these regulatory expectations, contributing to sustained growth in compliance-focused advisory services.

Consulting engagements increasingly require a blend of onsite, remote, and hybrid support. BSI Consulting's proven ability to deliver multi-faceted, technically deep solutions across all practice areas positions it strongly in a market demanding specialized expertise.

EBJ: What service areas have experienced the fastest growth?

Redden: Within BSI Consulting's Sustainability practice area, growth is most concentrated in compliance-oriented work where clients need rapid interpretation of new requirements, an efficient way to collect and validate data, and ongoing support to keep pace with guidance updates and rulemaking, most notably in the areas of:

- GHG accounting, carbon footprinting, and carbon neutrality support.
- Sustainability reporting and ESG disclosures.
- Climate risk and resilience consulting.
- Sustainable supply chain and responsible sourcing programs.
- Circular economy and product/packaging sustainability compliance.

EBJ: How has demand changed in sustainability and regulatory services?

Redden: Client demand has shifted from largely voluntary sustainability initiatives to mandatory, externally scrutinized, and time-bound compliance programs. Three changes stand out:

From commitments to compliance: Organizations are moving from high-level commitments to measurable programs supported by data controls and auditable evidence.

From single jurisdiction to multi-jurisdiction complexity: Companies increasingly need harmonized approaches that work across US states, Canadian provinces, and EU member states and that translate across product, packaging, and supply chain requirements.

From reporting only to performance improvement: Expectations are increasingly linking reporting to outcomes (e.g., packaging reduction targets, recyclability performance, and verified claims).

In packaging and circular economy specifically, the compliance focus is expanding beyond annual reporting to include source reduction requirements, eco-modulation incentives, substantiation of recycled content and recyclability, and systematic governance of packaging specifications and supplier data.

EBJ: When did Extended Producer Responsibility (EPR) start showing up on BSI's strategic radar?

Redden: EPR is not new globally; it has been embedded in many EU and Canadian packaging frameworks for years. In the US, it moved onto the strategic radar of many producers as state-level packaging EPR legislation accelerated and programs began to shift from passage into implementation in the early 2020s.

In client work, the inflection point is usually when obligations become concrete: registration, producer identification, accepted methodology decisions, and supply data reporting. Once deadlines are visible, companies quickly realize EPR is less about a one-time report and more about building a durable operating model.

EBJ: Was the decision client-led, regulation-led, or strategy-led?

Redden: The decision to invest in EPR as a defined service area has been regulation led and client led, reinforced by strategy-led investment. Regulation created hard deadlines and clear consequences for noncompliance, and clients asked for practical help to meet those deadlines with limited internal bandwidth. Over time, it has also become strategy led because EPR sits at the intersection of compliance, brand trust, cost, and circular design. In my experience, the companies that get ahead of it do not just reduce compliance risk; they also create a clearer view of packaging decisions, supplier performance, and fee exposure.

EBJ: How would you characterize the current maturity of the EPR market?

Redden: EPR market maturity varies materially by region in three lanes:

EU: mature and highly institutionalized, with long-standing packaging compliance schemes, the direction of travel is more performance based, with stronger eco-modulation signals and alignment with broader circular economy policy.

Canada: mature in many provinces, with established stewardship and producer responsibility models and a strong operational focus on Producer Responsibility Organization (PRO) participation, reporting, and fee structures.

United States: emerging and rapidly evolving, the market is characterized by state-by-state variation, active rulemaking, and a growing need for scalable data models that can adapt as new states enact laws and existing states to refine requirements.

Across regions, expectations are moving toward more standardized data, clearer substantiation, and a tighter link between fees and packaging design outcomes. At the same time, many producers are still building the underlying packaging master data and supplier reporting capability needed to respond efficiently.

EBJ: Which regions are driving the most complexity?

Redden: Complexity concentrates where programs are numerous, rules are not harmonized, and the producer's supply chain is global. In practice, three drivers dominate:

USA fragmentation: Differences in covered material definitions, reporting categories, timing, accepted methodologies, and enforcement create high configuration complexity for national brands.

EU scheme diversity and eco-modulation: Even in a mature market, fee calculation approaches and eco-modulation* criteria vary by country and evolve over time, which forces continuous monitoring and packaging decision support.

Global supply chains: Producers often depend on suppliers' packaging specifications and weights, and those suppliers may not be organized to deliver data in jurisdiction-specific formats without a clear, standardized request package and follow-up process.

EBJ: How do approaches differ?

Redden: All packaging EPR systems aim to shift end-of-life costs to producers and improve material outcomes, but the design details differ across the US, Canada, and the EU. Here is how I typically explain the differences to clients:

Governance model: EU and many Canadian systems are long standing with established PRO structures. US programs are newer and often defined through enabling legislation followed by multi-year rulemaking and PRO implementation.

Scope and definitions: Covered material definitions, exemptions, and producer definitions vary, especially in the US, where state programs can differ significantly in what is included and how material categories are defined.

Reporting approach: EU and Canadian systems often have stable annual cycles and established fee methodologies. US programs are still settling baseline reporting expectations, allocation methods, and accepted estimation approaches.

Fee signals and eco-modulation: Eco-modulation is more mature in parts of the EU and is emerging in North America, increasing the importance of packaging attributes such as recyclability, format, and recycled content.

Enforcement and market access: Compliance is increasingly tied to the ability to sell into markets, with public registries and potential penalties for noncompliance.

EBJ: What makes BSI's EPR approach different?

Redden: BSI Consulting's EPR approach is differentiated by how we combine compliance execution with a practical, repeatable operating model. In simple terms, we do not treat EPR as a one-time annual reporting exercise. We build the data structure, governance, and supplier engagement mechanics that make reporting repeatable and defensible year after year.

Design for substantiation: We translate requirements into auditable business rules, clear data definitions, and documentation of assumptions, allocation logic, and quality-assurance (QA) checks.

Multi-jurisdiction data model: We build workflows that scale across states, provinces, and countries, reducing rework each time a new program comes online and improving consistency across submissions.

Fee optimization and eco-modulation focus: We link reporting outputs to the packaging design and material levers that reduce eco-modulated charges and protect margins rather than stopping at compliance.

End-to-end delivery: We support discovery and scope determination, supplier engagement and data collection, data aggregation and submission support, and ongoing program management where internal capacity is limited.

Beyond compliance: Where clients want it, we help connect EPR data to circularity and carbon programs such as LCA, ESG reporting, and GHG tracking so the effort creates broader value.

Ultimately, our goal in this work is to make EPR manageable and actionable for clients. That means building repeatable processes, improving data quality over time, and giving teams a system that holds up under scrutiny while supporting smarter packaging decisions. □

US Packaging EPR Landscape Snapshot

As of late 2025 and early 2026, seven US states have enacted comprehensive packaging EPR laws: California, Colorado, Maine, Maryland, Minnesota, Oregon, and Washington. Implementation timelines and reporting expectations differ by state, and new states are actively considering similar policies, which is why a scalable data and governance model is becoming a core capability for national brands.

BSI's Extended Producer Responsibility Services

Extended Producer Responsibility (EPR) is shifting from a policy concept to an operational requirement for both brands and retailers. The pressure to stay in compliance is increasing due to rapidly expanding US state packaging laws with firm deadlines. Producers must also maintain compliance with more mature Canadian and European Union (EU) systems that are raising expectations for eco-modulation, recyclability, and data verification. BSI Consulting's Sustainability team helps organizations translate EPR requirements into an easy-to-understand and readily implementable operating model. BSI's typical process involves confirming which stakeholders have the necessary data, building a scalable packaging and sales data structure with said individuals, engaging suppliers to obtain defensible weights and material attributes, and preparing submission-ready reporting.

** Eco-modulation is a regulatory, and financial mechanism within Extended Producer Responsibility (EPR) systems that adjusts fees paid by producers based on the environmental performance of their packaging or products.*

SALAS O'BRIEN CREDITS 50 YEARS OF SUCCESS TO TECHNICAL RIGOR, EMPLOYEE OWNERSHIP AND DELIBERATE GROWTH

Founded in 1975 and with approximate revenues of $750 million, **Salas O'Brien** is an employee-owned engineering, science, and technical services firm focused on advancing the human experience through the built environment. With more than 4,850 team members operating across North America, the company partners with clients in critical markets including healthcare, education, infrastructure, manufacturing, science and technology, data centers, and other mission-critical facilities. Salas O'Brien has grown significantly over the last two decades through a combination of organic expansion and strategic partnerships, always with an emphasis on deepening technical expertise and preserving a culture of ownership. Salas O'Brien is backed by Blackstone through minority growth investments that have helped accelerate the company's continued expansion.

Darin Anderson, Chairman and CEO. Mr. Anderson has served as chairman and CEO of Salas O'Brien since 2006, guiding the company through an era of impressive growth to become one of North America's leading engineering and technical services firms. He has led large engineering and construction organizations for nearly three decades in the capacity of CEO, COO, and CFO.

EBJ: What elements of the firm's original 1975 founding vision still actively shape decision-making today?

Anderson: Salas O'Brien was founded in 1975 on a forward-looking belief that smarter energy use could help shape a more sustainable world. That focus on performance, efficiency, and long-term impact still guides how we lead today. Our founders, Carl Salas and Dan O'Brien, believed technical expertise matters most when paired with curiosity, integrity, and respect for the people you're working with. That mindset hasn't changed. We still ask hard questions, we still dig into the details, and we still prioritize long-term relationships based on trust and performance. For every project, our goal is to deliver solutions that create measurable, lasting value.

At the end of the day, we believe every engagement should improve the world in a meaningful way. In practice, that means reducing energy intensity, strengthening system reliability, enhancing resilience, and helping clients make disciplined, forward-looking decisions about their assets. The scale has changed since 1975, but our philosophy hasn't. We remain focused on smart solutions, real impact, and leaving the world in a better place.

EBJ: Looking back, which early strategic choices most strongly influenced Salas O'Brien's long-term trajectory?

Anderson: One of our earliest strategic choices was to focus on performance over scale. From the beginning, Salas O'Brien has been built around solving complex energy and building performance challenges with technical depth. That decision positioned us in markets where expertise and trust matter most and created a foundation for long-term client relationships rather than transactional work. Another defining choice was committing to employee ownership. That structure aligned incentives early and reinforced a culture of accountability. When people think like owners, they make better decisions for clients and for the organization. Over time, that approach has compounded. It has strengthened collaboration, supported retention, and created continuity through growth and leadership transitions.

A third pivotal decision was growing deliberately. As we expanded beyond our original footprint, we were intentional about prioritizing technical strength and values alignment over speed. We continue to seek partners who share our focus on quality, technical excellence, and elevating team members. That discipline has allowed us to scale without diluting what made us successful in the first place.

Taken together, those early choices created a durable model. Technical rigor, ownership mindset, and intentional growth remain the strategic pillars shaping Salas O'Brien's trajectory today.

EBJ: How do you ensure growth reinforces purpose rather than diluting it?

Anderson: Our growth has always been intentional, building our own capabilities and joining with like-minded organizations that share our values and elevate our technical depth. Every merger is evaluated through a long-term lens. Do we have shared values? Do we elevate each other's technical capabilities? Will we be stronger together five and ten years from now?

When we join with another organization, the objective is not to change their structure or dilute what made that team

EBJ Award: 50-Year Company Recognition

Amid the energy challenges of 1975, Dan O'Brien and Carl Salas founded **Salas O'Brien** with a shared vision to design smarter systems and build a better world. What began as a response to the energy crisis has grown into a purpose-driven firm of more than 4,300 team members united by a passion for making a positive impact. Over the years, Salas O'Brien has expanded its reach through over 50 mergers with like-minded firms with a shared belief in empowering team members and pursuing technical excellence. This growth has fueled national recognition, including ranking #31 on ENR's Top 500 Design Firms and becoming a 13-time honoree on the Inc. 500 list. To celebrate its 50th anniversary in 2025, the firm launched 50 Acts of Community Impact to give back to the communities it serves, introduced a commemorative logo and graphics, and released its Founders' Story and 50 Years of Impact videos to honor the firm's legacy. Together, these efforts strengthen Salas O'Brien's culture of service and shared success. After five decades, the firm continues to help communities thrive through purposeful design and technical innovation. True to its founders' vision 50 years later, Salas O'Brien is engineered for impact. □

successful. It is to build on that foundation. We invest in leaders and the broader team, expand access to resources, and create new pathways for collaboration, while staying true to what earned client trust in the first place.

Over the past decade, we have partnered with more than 50 organizations. Each has strengthened our collective expertise, broadened opportunities for team members, and expanded the impact we can deliver in the markets we serve. Growth, approached with discipline and clarity of purpose, reinforces who we are rather than changing it.

EBJ: In which ways has your culture enabled the growth that you have achieved?

Anderson: The way we are structured drives the way we grow. Employee-ownership is central to this and creates alignment between individual performance and the long-term success of the organization.

When people think and act like owners, they make decisions with accountability and initiative. That ownership mindset encourages an entrepreneurial approach, not in the sense of operating independently, but in the sense of taking responsibility, identifying better ways to serve clients, and having the confidence to raise ideas that improve how we work. It means solving problems proactively, challenging assumptions constructively, and looking for smarter, more effective ways to deliver results.

At the same time, ownership reinforces discipline. We are building an organization designed to thrive and endure, not one that chases short-term gains. Initiative is balanced with responsibility, and innovation is grounded in long-term thinking.

Our Ownership Values of Leadership, Relationships, and Results provide the framework for how we operate. They shape our expectations, guide decision-making, and keep our teams aligned around long-term performance.

Because of that alignment, growth becomes a byproduct of how we work rather than a goal pursued in isolation. Our team members drive performance, and performance drives sustainable growth.

EBJ: Tell us about your sustainability practice. Since when have you had one, how has it grown in recent years and what are some highlights?

Anderson: Sustainability has been part of Salas O'Brien since our founding during the 1970s energy crisis. Early work in energy auditing established a foundation built on responsible resource use and measurable results.

Over time, that foundation evolved into a comprehensive sustainability capability integrated across our services. Today, we support clients with decarbonization planning, electrification strategies, high-performance building design, commissioning, and long-term optimization. As regulatory pressures and stakeholder expectations have increased, our work has expanded from project-level efficiency improvements to enterprise-wide strategies focused on emissions reduction, resilience, and asset performance.

In recent years, demand has accelerated across healthcare, data centers, advanced manufacturing, and campus infrastructure. Clients are seeking solutions that balance sustainability goals with operational reliability and financial performance.

What matters most is that sustainability looks different for every organization. Our role is to meet clients where they are, understand their challenges, and help chart a path forward that's achievable, scalable, and built for the future.

EBJ: How do sustainability teams collaborate with traditional engineering teams?

Anderson: Sustainability at Salas O'Brien is embedded within our engineering teams and integrated into the way we deliver projects from the outset.

Project teams align performance objectives with design decisions early in the process, incorporating energy modeling, decarbonization analysis, and lifecycle evaluation alongside core engineering considerations. Rather than treating sustainability as a separate phase, it is woven directly into system selection, coordination, and performance evaluation.

This approach allows trade-offs to be evaluated in real time, balancing efficiency, resilience, cost, constructability, and operational continuity. Our teams work side by side to ensure that sustainability considerations are grounded in technical rigor and aligned with each client's broader business priorities.

Because that expertise is integrated across disciplines, accountability is shared. Every team member contributes to performance outcomes, resulting in solutions that support client goals, strengthen long-term asset value, and deliver durable results. ☐

EBJ Project Merit: Energy Efficiency at Molson Coors

Salas O'Brien partnered with Molson Coors and equipment manufacturer Krones to deliver a high-efficiency filler and pasteurizer line replacement at Molson Coors' Albany, Georgia facility. The upgraded system was completed in 2025 and supports the beverage company's commitment to sustainable brewing and modern production. Through innovative process engineering and close collaboration, the project achieved: 30% reduction in steam use through localized heat recovery; 20% reduction in power demand for the water chiller by shifting from continuous to punctual cooling; 20% reduction in water treatment load by optimizing pasteurizer water quality; and 10% decrease in pumping requirements, lowering the load on the cooling tower. These efficiencies enable water mass balance and energy reuse within the equipment while also eliminating three process chemicals and their pumps, improving operator safety and reducing environmental impact. The system now produces 1,600 cans per minute and lessens operator workload. This collaboration demonstrates how thoughtful engineering and strong partnerships can drive measurable progress in energy efficiency, water conservation, and safety—setting a new standard for sustainable operations across the food and beverage industry. ☐

ET ENVIRONMENTAL HAS AMBITIOUS PLANS TO DOUBLE ITS DESIGN-BUILD PRACTICES IN CNG, LNG, LANDFILL REMEDIATION AND INDUSTRIAL WASTEWATER

With headquarters in Atlanta, GA, **ET Environmental** is an employee-owned design-build firm with in-house professional engineers and construction managers in 12 offices across the US. The company focuses on design and construction of the energy, environmental, and industrial markets and completes approximately $150 million in annual revenue. ET was founded in 1993, combining clean technologies and traditional engineering practices into innovative design and construction. We offer a national network of support, single point accountability, and function as Owner advocates. ET has blended environmental expertise, construction knowledge, and management systems into a unique, integrated design-build service model.

Bill Higginbotham, CEO. Mr. Higginbotham has a 50-year career in earth sciences, engineering and construction management. His experience lies in a wide variety of markets, including solid waste, industrial, and renewable energy. He is a life member of the American Society of Civil Engineers, Solid Waste Association of North America, and National Waste and Recycling Association.

EBJ: What strategic shifts have most influenced ET's growth?

Higginbotham: Two major strategic shifts that influenced ET's growth were the introduction of natural gas vehicles and the advancement of landfill gas into renewable natural gas. In the early 2000's, fleet operators began adopting natural gas to reduce fuel costs and emissions. Demand increased for fueling infrastructure and conversion of vehicle maintenance shops from diesel to compressed natural gas compliance throughout the country. ET's national footprint and design-build capabilities allowed the company to expand and strengthen client partnerships to meet these needs.

More recently, improvements in gas upgrading technology and the demand for clean energy transformed landfill gas from a compliance obligation into a valuable renewable energy source. This shift significantly increased project size, technical complexity, and long-term investment opportunities for our clients. These two trends allowed ET to evolve from primarily supporting environmental compliance projects into delivering full-scale energy infrastructure solutions. ET is now a strategic partner that helps clients develop sustainable energy solutions.

EBJ: Which service lines are currently driving the largest share of revenue growth?

Higginbotham: ET's Energy Division is currently driving a significant portion of revenue growth through the development and delivery of renewable natural gas (RNG) processing facilities. These facilities range from 3000-8000 SCFM (Standard Cubic Feet per Minute) with larger facilities planned or in development.

For the past 20 years, CNG fueling and infrastructure has been the main driver of revenue growth along with traditional solid waste processing and materials recovery facilities remaining a core market for ET.

EBJ: How has your project mix changed over the last 10 years?

Higginbotham: There has been a dramatic increase in process-oriented projects such as gas refining and wastewater treatment. ET's Industrial Division was established approximately five years ago to meet the needs of larger industrial wastewater treatment projects. The Food and Beverage market includes processing and packaging facilities that generate significant wastewater that must be processed to meet environmental regulations. These process-oriented projects are well suited for a design-build model to deliver them faster while keeping facilities operational during expansion and upgrades.

EBJ: How has client demand changed in terms of sophistication and expectations over the last 5 years?

Higginbotham: Our clients are demanding performance assurances and cost certainty now more than ever.

EBJ: What does success look like for ET in 2030?

Higginbotham: ET currently has three functioning divisions with another division coming online shortly. In another four years, we plan to expand to five divisions and double our revenue to approximately $400 million per year. ET's engineering design capabilities currently encompass civil, structural, electrical, and mechanical design. The capacity and capabilities of our in-house design staff are expected to greatly expand to accommodate larger, more sophisticated projects. ET is also expanding into a product sales and fabrication function to meet the needs of our core markets – energy, environmental, and industrial. This is a new division for ET and one that we expect will grow faster than any other area of our company in the next two years.

EBJ: What are the most noticeable trends of the landfill remediation market today?

Higginbotham: The consolidation of qualified service providers in the landfill remediation market has resulted in far fewer firms possessing the technical and construction capabilities required to execute complex remediation projects. Many remediation projects, like the North Temple Landfill Remediation project in Utah, involve integrated solutions such as leachate treatment, gas management, slope stabilization, and long-term environmental monitoring. Multi-disciplined service providers are better equipped to deliver turnkey, design-build delivery models rather than single-scope services. Owners and regulators are also prioritizing sustainable and cost-effective remediation approaches, including beneficial reuse strategies and

technologies that reduce long-term operational and maintenance burdens.

EBJ: What drivers are accelerating demand?

Higginbotham: Brownfield approaches often help overcome the high cost of regulatory cleanups. Older, closed landfills are often located on valuable, strategically important tracts of land that create financial opportunities for redevelopment and reuse.

EBJ: How are remediation approaches changing?

Higginbotham: We focus on brownfield projects where there is more creativity in the solutions. As an example, we were able to gain permission to place excavated waste into an on-site repository, which resulted in an eight-figure savings over co-disposal in an existing Sub-Title D municipal solid waste landfill.

EBJ: What contaminants are becoming more prominent? Where do clients struggle most?

Higginbotham: PFAS/PFOA families of compounds are more prevalent in all areas of environmental management and remediation. Regulatory limits and approaches are still unclear, which creates a struggle for most clients.

EBJ: What originally made North Temple Landfill one of the region's most complex remediation challenges?

Higginbotham: The North Temple Landfill site is more than 700 acres which makes it challenging to manage logistically. The absence of similar projects in the state of Utah is also challenging.

EBJ: Why was WAIV® selected over traditional hauling or treatment?

Higginbotham: The WAIV system works well because commercial power is unavailable at the site until 2028. This unique system uses natural elements like the arid climate and wind movement across the site rather than traditional power. The capital investment was less than $500,000 compared to traditional leachate treatment plants that can often cost in the $4 million to $7 million range. The system is extremely efficient and evaporates leachate without the need for a full-time operator. At the North Temple Landfill, we've evaporated over one million gallons of high strength leachate in the first nine months of operations. □

EBJ Award: Project Merit: Landfill Remediation

ET Environmental Corp., LLC's North Temple Landfill Remediation Project exemplifies project merit through innovation, partnership, and measurable progress in 2025. This project, conceived in 2018, broke ground in early Spring. During Phase 1, the project successfully surpassed the 50% soil remediation milestone, with more than 475,000 cubic yards remediated toward a total of 950,000 cubic yards, marking a significant achievement in one of the region's most complex environmental cleanups. Central to this success was ET's partnership with Ninigret Management and the Utah Inland Port Authority, and the implementation of the Wind-Aided Intensified eVaporation (WAIV®) system in collaboration with Leachate Management Specialists. This cutting-edge, on-site leachate management solution replaces traditional off-site hauling with a natural, energy-efficient evaporation process that leverages Salt Lake City's semi-arid, windy climate. Since startup, the WAIV system has evaporated over 900,000 gallons of leachate, exceeding performance expectations while reducing emissions, operational costs, and reliance on external wastewater treatment facilities. By combining innovative engineering, proactive environmental stewardship, and strong public-private collaboration, the North Temple project demonstrates how large-scale remediation can successfully convert brownfield projects to developable land.

Technology Is Reshaping Landfill Emissions Management

Advancements in emissions detection, data collection, and modeling will enable operators to maintain compliance and improve performance regardless of regulatory volatility. The conversation reflects a broader trend across the environmental industry: technology innovation is increasingly acting as a stabilizing force amid shifting policy landscapes.

At the same time, landfill emissions monitoring is undergoing a significant transformation driven by remote sensing and digitalization. New tools that include satellites capable of methane detection, airplane-mounted sensors, drones with high-resolution monitoring capabilities, and robotic inspection systems are replacing labor-intensive field methods and enabling faster, more precise emissions analysis. These advancements are reshaping landfill gas modeling, where experts continue to debate empirical versus theoretical approaches as the industry works toward standardized methodologies. Together, improved monitoring and modeling are supporting the expansion of renewable natural gas (RNG) infrastructure, positioning landfill gas capture as a key component of the waste-to-energy transition. As technology improves and data quality increases, the sector is moving toward more proactive emissions management strategies that align environmental compliance with new revenue opportunities from low-carbon energy production.

Multi-disciplined service providers are better equipped to deliver turnkey, design-build delivery models rather than single-scope services. Owners and regulators are also prioritizing sustainable and cost-effective remediation approaches, including beneficial reuse strategies and technologies that reduce long-term operational and maintenance burdens.

STELL EXTENDS CAPABILITIES IN RESILIENT INFRASTRUCTURE, CULTURAL RESOURCES AS CLIENTS MANAGE RISK AND PURSUE LONG-TERM VALUE FROM PROJECTS

Stell Environmental Enterprises is a woman-owned and service-disabled veteran-owned small business (WOSB/SDVOSB) headquartered in Washington State, with project work across the continental U.S. and select overseas locations. Founded 22 years ago, Stell generated $9 million in revenue in 2025 and employs about 60 professionals. Over the past several years, Stell's work has increasingly focused on infrastructure, energy resilience, cultural resources, and asset-focused services that support long-term planning and risk reduction. Recent growth includes a multi-year energy resilience contract of approximately $1.5 million annually with the U.S. Army Corps of Engineers, Huntsville District, as well as facility condition assessments supporting the Commonwealth of Pennsylvania.

Stell's cultural resources work has expanded alongside infrastructure and land management programs, as agencies and owners seek earlier engagement, clearer risk identification, and better integration of cultural considerations into project planning. Across environmental, infrastructure, and cultural services, Stell applies a systems-thinking approach, connecting data, fieldwork, and analysis so information is usable, defensible, and aligned with how clients make decisions. Stell's client mix is predominantly federal, followed by state and commercial clients, with significant past performance in environmental services, engineering, infrastructure, and asset management. Increasingly, clients look to Stell to translate accurate data and analysis into long-term value, improved project delivery, and reduced lifecycle costs.

Julie Erickson, President and CEO/CFO. Ms. Erickson has served as President and CEO/CFO of Stell since 2014. A U.S. Navy veteran, she brings a background in information technology and operations, an MBA, and more than two decades of experience supporting federal clients. Under her leadership, Stell successfully transitioned out of the 8(a) program into a sustainable small business. Beginning in 2016, Julie led Stell's early adoption of cloud-based systems and a remote work culture, well before it became common, allowing the company to scale talent, maintain continuity, and deliver consistently across geographically dispersed projects. Her leadership emphasizes quality, efficiency, and decision-ready data that helps clients reduce risk and long-term costs.

EBJ: How has Stell's business mix changed over the last 3–5 years?

Erickson: Over the last three to five years, Stell's business mix has shifted toward infrastructure-driven work, particularly projects focused on resilience, reliability, and long-term performance. Demand is increasingly tied to how infrastructure responds to climate impacts, aging assets, and rising operational expectations.

At the same time, Stell is doing less traditional environmental compliance and remediation work. While regulatory requirements remain important, many clients are moving upstream—prioritizing planning, assessment, and risk reduction over corrective action after issues arise.

Our client mix has also evolved, with increased work for state and non-Department of Defense clients, reflecting broader public-sector investment in transportation, facilities, and land management. That shift has expanded both the scale and diversity of projects, particularly those tied to regional and statewide programs.

Another clear growth area has been wildfire management, including vegetation management, defensible space, corridor analysis, and landscape-level planning in fire-prone regions. This work often integrates geospatial data, field expertise, and long-term monitoring to support proactive decision-making.

We've also seen increased demand for facility condition assessments and energy audits, as owners seek to better understand asset performance, extend service life, and manage costs. Overall, Stell's work has moved toward resilience, planning, and long-term value.

EBJ: What types of projects are growing fastest for you right now, and why?

Erickson: At the moment, we're not seeing rapid growth on the federal side. There is a fair amount of uncertainty, and many programs are moving more slowly than expected, with significant activity but fewer projects advancing to execution.

Where we are seeing growth is driven largely by our existing client base and near-term priorities. Cultural resources work continues to expand as agencies and owners focus on risk reduction, schedule certainty, and earlier engagement to avoid downstream delays.

We're also seeing strong growth in digitalization, particularly efforts to improve how data is collected, managed, and reused. Clients are asking how LiDAR and geospatial data can support better decisions and deliver a clear return on investment. The conversation has shifted from "can we collect this?" to "how does this create long-term value?"

Energy resilience is another fast-growing area, especially for state and local clients managing aging facilities and infrastructure. Projects increasingly focus on understanding current conditions, identifying vulnerabilities, and prioritizing investments that reduce lifecycle costs.

Across all of these areas, growth is strongest where projects clearly connect today's investments to measurable outcomes and long-term savings.

EBJ: What has been the most important driver of Stell's growth?

Erickson: The most important driver of Stell's growth has been a systems-thinking approach to project delivery, supported by technology and disciplined execution. Rather than operating in silos, we focus on how data, disciplines, and decisions connect across the full project lifecycle.

That mindset shapes how we use technology. We adopt tools that improve accuracy, efficiency, and consistency, not for their own sake, but because they reduce rework, shorten timelines, and deliver information clients can trust. When projects don't require rewrites or extended review cycles, it creates tangible value.

Reputation follows from that approach. Clients know we focus on quality and efficiency and think beyond individual tasks to how work fits into the larger system. Partnerships and joint ventures also play an important role, allowing us to scale capacity and pursue complex work while maintaining consistent standards and delivery expectations.

EBJ: Tell us about the cultural resources market?

Erickson: Over the past two years, the cultural resources market has become more active, faster-paced, and more integrated into overall project delivery.

Demand has grown significantly, particularly in regions with strong infrastructure funding and regulatory pressure. Cultural resources work is no longer limited to late-stage compliance; clients are increasingly engaging earlier as part of planning and risk management.

Projects are moving faster, and expectations are higher. Clients want actionable insights, not just reports, so they can make informed decisions without late surprises. Cultural resources is also less siloed, with earlier integration alongside environmental, surveying, and engineering teams.

Primary clients include state and local transportation agencies, federal land managers, private developers, utilities, and engineering firms embedding cultural services into broader offerings. Increasingly, clients view cultural resources as a risk management function rather than a checkbox.

A major shift within this market is tribal engagement and consultation. Consultation is happening earlier, more frequently, and with greater substance. Agencies recognize that late-stage consultation increases risk to schedules and outcomes. Clients also understand that consultation is not one-size-fits-all and requires consistency, cultural awareness, and follow-through.

Stell is doing less traditional environmental compliance and remediation....While regulatory requirements are important, many clients are moving upstream—prioritizing planning, assessment, and risk reduction over corrective action after issues arise.

There is also greater emphasis on landscape-level context, rather than isolated sites. Overall, tribal engagement has become a core component of cultural resources work and is reshaping how projects are planned and delivered.

EBJ: How would you characterize the current stage of the LiDAR industry? And how is terrestrial vs drone different?

Erickson: The LiDAR industry is in a phase of rapid expansion, with elements of early maturity. The technology itself is no longer the barrier. What's driving growth now is how confidently organizations are willing to rely on LiDAR as part of everyday planning and decision-making. In many sectors, it's moved from being innovative to being expected, although adoption is still uneven across agencies and owners.

The difference between terrestrial and drone LiDAR reflects that same dynamic. Terrestrial LiDAR is more established and widely trusted for detailed, high-precision applications, while drone LiDAR is expanding more quickly as it becomes a practical solution for larger areas, corridors, and difficult terrain. From a leadership perspective, the focus is less on the platform and more on ensuring the right data is used for the right purpose to reduce risk, support planning, and deliver long-term value.

EBJ: What has changed most dramatically in LiDAR capabilities over the last five years? And what can be done with LiDAR today that simply wasn't practical 3 years ago?

Erickson: The most dramatic change in LiDAR over the last five years is that it has become operational rather than experimental. What used to require specialized teams, long mobilizations, and significant post-processing effort can now be deployed quickly and reliably. As a result, LiDAR is no longer treated as a special study—it's increasingly used as a standard input for planning, design, and asset decision-making.

What's become practical in just the last three years is using LiDAR routinely and at scale. Repeat data collection for monitoring change, combining terrestrial and drone LiDAR on the same project, and delivering data fast enough to influence active project decisions are now realistic expectations. This has shifted the conversation from "can we collect this?" to "how do we use this data to reduce risk, control costs, and make better long-term decisions?"

EBJ: How are expectations from clients different today compared to a few years ago?

Erickson: Client expectations haven't changed as much as the pace. Clients need work completed faster, and they need help justifying budgets.

They expect:

- Faster, more predictable schedules
- Defensible documentation that withstands review
- Technology-enabled delivery that improves accuracy and transparency
- Earlier engagement to identify risk before design is locked

LiDAR is no longer a "nice to have." Clients expect data that is accurate, timely, and directly usable across design, permitting, environmental review, and asset management workflows.

While regulations haven't shifted dramatically, agencies are enforcing existing standards more consistently, with greater scrutiny and emphasis on context and defensibility.

EBJ: How is LiDAR being used differently in:

Infrastructure

In infrastructure, LiDAR has moved from basic mapping into early planning and risk reduction. Instead of waiting until design is underway, agencies and owners are using LiDAR up front to understand constraints, right-of-way conditions, utilities, and terrain before decisions are locked in. It's also increasingly used across entire corridors rather than isolated segments, which helps reduce surprises later and improves coordination between planning, engineering, and environmental teams.

Environmental monitoring

LiDAR is now being used less as a one-time snapshot and more as a repeatable monitoring tool. Clients are using it to track change over time, vegetation growth, erosion, habitat conditions, and landscape disturbance, with measurable accuracy. What's different today is that repeat surveys are practical and defensible, allowing agencies to quantify change rather than rely solely on visual inspection or modeling assumptions.

Cultural resources

For cultural resources, LiDAR has become a powerful context and screening tool. It's helping teams understand landscapes at a broader scale, identify potential sensitivity areas, and focus field efforts more strategically. While it doesn't replace fieldwork or consultation, it improves planning, supports defensible interpretations, and helps projects move more efficiently by reducing uncertainty early.

Construction

In construction, LiDAR is increasingly tied to active project delivery, not just pre-construction surveys. Contractors and owners are using it to document existing conditions, verify quantities, monitor progress, and resolve disputes. The expectation now is that LiDAR data can be collected and turned around quickly enough to support real-time decisions, rather than being a static record.

Asset management

Asset management is one of the fastest-evolving uses of LiDAR. Clients are using it to build and maintain accurate, spatially precise inventories of roads, bridges, utilities, facilities, and corridors. Instead of relying on periodic inspections alone, LiDAR supports condition assessment, lifecycle planning, and prioritization, especially when paired with GIS and other enterprise systems.

Across all these areas, LiDAR is being used less as a standalone deliverable and more as a foundational dataset that supports planning, decision-making, and long-term management. The shift isn't just about better technology, it's about how comfortable clients now are relying on LiDAR as part of their core workflow.

EBJ: Where do you see the biggest growth potential that is still underpenetrated?

Erickson: The biggest underpenetrated opportunity is data accuracy and representation as a driver of long-term cost savings. Many organizations collect LiDAR and geospatial data, but underuse it because it lacks consistency, structure, or defensibility. There is growing recognition that investing upfront in higher-quality data reduces redesign, change orders, and long-term maintenance costs. The real shift is moving from viewing LiDAR as a project expense to treating it as foundational data that can be trusted and reused over time.

As owners connect data quality directly to lifecycle savings, demand will continue to grow for solutions that emphasize accuracy, consistency, and long-term value, not just speed. □

We're also seeing strong growth in digitalization, particularly efforts to improve how data is collected, managed, and reused. Clients are asking how LiDAR and geospatial data can support better decisions and deliver a clear return on investment. The conversation has shifted from "can we collect this?" to "how does this create long-term value?"

EBJ Award for Technology Merit: LIDAR for Historic Preservation

Stell Environmental Enterprises advanced LiDAR-enabled data visualization to enhance historic preservation outcomes through an innovative digital documentation workflow at Chaco Culture National Historical Park, a UNESCO World Heritage Site requiring exceptional precision and archival integrity. Stell developed an integrated methodology that transforms high-resolution terrestrial LiDAR point clouds into structured, interpretable architectural deliverables. Using terrestrial 3D LiDAR scanning, high-resolution ortho-imagery, and geospatial control, Stell documented 85 architectural units within the Pueblo del Arroyo Great House. Resulting datasets were processed into annotated wall elevations, condition visualizations, and a digital architectural model that supports consistent measurement, comparison, and condition assessment. This work represents a shift in LiDAR use for historic preservation—from static record capture to an analytical, visual decision-support tool. Deliverables support condition assessment, treatment planning, and long-term monitoring of erosion, environmental exposure, and stabilization efforts. All products were generated in NARA-approved archival formats and integrated with AutoCAD and GIS platforms, ensuring long-term accessibility, usability, and scalability.

TIGHE & BOND SEES GROWTH ACROSS ENVIRONMENT, WATER AND TRANSPORTATION BUSINESS UNITS SUPPORTED BY INVESTMENT IN DATA MANAGEMENT

Tighe & Bond is a leading Northeast engineering, environmental, planning, and design consulting firm, trusted for more than a century to deliver solutions that help communities evolve and thrive. Tighe & Bond is proudly employee-owned, with close to 650 employees and net service revenue exceeding $125 million in 2025. Tighe & Bond services public and private clients, with a diverse range of services including water and wastewater engineering; environmental consulting; civil, transportation, and building systems engineering; landscape architecture; and planning.

Bob Belitz, President & CEO. Mr. Belitz has served in this role since 2019 and is responsible for company vision, strategy, and growth, including the development and implementation of the firm's strategic plan and business plan. Prior to being elected President and CEO, he served as Chief Financial Officer, directing financial operations and priorities, as well as contributing to growth strategies consistent with the firm's continued expansion in the marketplace.

Dan Rukakoski, Environment Business Line Leader. Mr. Rukakoski has extensive experience in diverse aspects of environmental consulting, including wetland delineation, sediment evaluations, environmental and energy permitting, regulatory negotiations, site assessment and environmental construction observation.

Peter Grabowski, Chief Operating & Risk Officer. Mr. Grabowski collaborates with the firm's management to support high-quality client service delivery across all geographic locations. He currently oversees several functions at Tighe & Bond, including IT, contracts, safety, digital project delivery, enterprise risk management, and office administration.

Trent Guihan, Business Solutions Manager. Mr. Guihan utilizes his experience in the design, construction, and engineering industry to find continuous ways of improving product quality and delivery through innovative workflow and solution implementation. He is a key contributor to the firm's technology initiatives, including integrating Reality Capture, SCAN-BIM, and other field data solutions into project delivery.

Shawn Shepard, Senior Development Engineer. Mr. Shepard is a systems development engineer with experience in a broad array of site/civil engineering projects in addition to his experience with Geographic Information Systems (GIS) and computer application development. Mr. Shepard has a unique insight into the use of GIS for civil/environmental engineering projects having a number of years of experience in both disciplines. He is an FAA certified UAV pilot, managing flight services and UAV-derived data products.

EBJ: How would you describe Tighe & Bond's strategic evolution over the past five years?

Tighe & Bond: Our firm has experienced a combination of organic and acquisition growth, with a continued focus on providing multi-disciplinary services to a diverse client base. We have opened four new offices and completed four acquisitions in the last five years, all in our core geography of the Northeast.

We remain focused on employee development, engagement and retention, including maintaining a hybrid work model, best-in-class benefits, and a commitment to professional development and learning.

EBJ: What types of services or markets have been driving the strongest growth?

Tighe & Bond: We have seen growth across many of our business lines (we have five within our firm) and market sectors. For example, within our Environment Business Line, market drivers include brownfields redevelopment, utility upgrades and emergency response, state-funded ecological restoration, and regional demand for multi-family housing. Growth in our water business line continues to be impacted from regulatory drivers, such as PFAS treatment and lead service line replacement. Our work in transportation has benefited from our strong relationships with municipal clients and state Departments of Transportation, increased funding availability for infrastructure projects, and from adding services to fulfill the growing needs of municipal, state, and private clients.

EBJ: How has client demand shifted in terms of digital, data-driven, and technology-enabled services?

Tighe & Bond: In a continued attempt to drive efficiencies, client demand for digital and data-driven services has risen. Our firm has traditionally offered technology-enabled services like GIS, and we have been able to scale up our use of these technologies to support clients with building their own GIS capabilities for asset management. We also have a dedicated Data Management team within our Environment group that has developed methodologies for rapidly collecting, storing, and managing large amounts of data. This team supports our project teams, improving processes in data collection and management to facilitate detailed analysis and visualization.

EBJ: Please provide client trends and how are expectations from clients different today compared to a few years ago?

Tighe & Bond: Client expectations consistently evolve; at Tighe & Bond we have intentionally built our business model to anticipate those shifts to best serve our clients. For public-sector clients, the availability of state and federal infrastructure funding has changed how projects are planned and delivered. We work closely with municipalities and agencies early to connect projects to viable funding sources. By integrating funding strategy with engi-

neering from the outset, we can help clients move more efficiently from concept to construction and improve the likelihood that projects can advance on schedule once funding is secured.

For private-sector clients, our focus is on helping projects move forward with greater certainty in a changing regulatory and funding environment. As requirements around water quality, emerging contaminants, energy, and resiliency continue to evolve, our teams help clients understand how those drivers affect design, approvals, and long-term operations. Across both public and private work, our emphasis is on practical solutions, coordinated teams, and clear decision-making that keeps projects moving and delivers value in what can oftentimes be complex environments.

EBJ: How are drones being used differently in the following areas:

Infrastructure

With the increased availability of LiDAR and multispectral sensors, we are seeing increased drone usage to capture existing infrastructure. Mapping existing large-scale infrastructure has become affordable, and increased standardization in data formats means better integration in other engineering and management applications.

Environmental monitoring

Very large environmentally sensitive habitats, such as salt marshes and coastal bogs, can be difficult to access and monitor. Drones provide us with the means to efficiently map and monitor vegetation and water levels unobtrusively throughout the year, providing a better understanding of the ecosystem.

Water and wastewater

Drones are being used for a great number of tasks within the water and wastewater industry, such as watershed mapping, illicit discharge monitoring, leak detection, residuals management, and reservoir stewardship. Drones are being used increasingly for detailed dam inspection through LiDAR and even thermal imaging to detect possible leaks and deteriorating conditions.

Construction and Land Development

Drones are being used extensively for construction monitoring and volume calculations. A drone can be programmed to fly the same route frequently throughout the construction process yielding a record of the process from every angle. LiDAR mapping drones can be used to monitor excavation quantities, rock excavation, and stockpile volumes accurately and with repeatability.

Asset management

One of the fastest growing areas of drone use in asset management is facility inspection. High resolution images and video can help engineers assess building conditions, as well as other vertical structures, like aboveground tanks, towers and poles. Thermal imaging can shed light on energy loss and inefficient equipment, potential faults, and structural issues.

LiDAR mapping has been around for some time... but the equipment is maturing and has become significantly more affordable recently.

EBJ: Where do you see the biggest growth potential that is still underpenetrated?

Tighe & Bond: Even though AI is such a major topic of conversation in the environmental industry, there is still significant growth potential in machine learning models, which enable technical specialists to make actionable decisions about data. Widespread adoption of technology, reduced costs and barriers to entry, integrated solutions, and improved computing power are changing the way digital solutions are applied on projects.

For example, we recently conducted a drone survey of a salt marsh which involved over 1.2 billion different data points, which we were able to rapidly process with predictive modeling and machine learning.

EBJ: How are sensors, AI and other technologies being incorporated into drones?

Tighe & Bond: Drones have had the ability to conduct automated flights for quite a while, but the use of AI can help make those flights safer with better system monitoring and obstacle avoidance. Possibly the biggest advancement due to AI, however, is in the processing of drone data. Large datasets can be processed much more efficiently with less user input. AI can be used for operations such as counting parking spaces, tracking vehicle movement, and identifying structures. AI can be used to sift through millions of collected points and sort them into object categories, which have traditionally been highly labor-intensive tasks.

EBJ: Any new regulations that have come out or that you are expecting?

Tighe & Bond: As regulatory requirements continue to evolve, we take a proactive approach by continuously evaluating the broader regulatory landscape and assessing potential impacts to our clients and projects. This ongoing review is supported by our use of advanced technologies and data-driven tools, which are increasingly helping us track trends, model scenarios, and adapt efficiently as requirements change.

EBJ: How would you characterize the stage of the drone industry? And how is terrestrial vs drone different?

Tighe & Bond: The industry is probably best categorized as being somewhere between rapid expansion and early maturity. Though most are familiar with drone technology through recreational or military drones, the commercial drone industry has been growing for a decade. The standardization and availability of mature, proven equipment is leading to adoption in more areas of our industry. The more they are used, the more uses are identified. Drones are transitioning to become a more dependable resource for data collection and documentation of complex issues.

EBJ: What has changed most dramatically in drone capabilities over the last five years? And what can be done with drones today that simply wasn't practical 3 years ago?

Tighe & Bond: One of the fastest maturing technologies that we are currently using is LiDAR mapping. While that technology has been around for quite some time, the equipment is maturing and has become significantly more affordable in the last three years. The ability to accurately map hundreds of acres through vegetation in a day or two was the realm of full-scale aircraft mapping just a few years ago, and mapping that same area yearly, or regularly throughout the year would simply not have been practical.

EBJ: Why did Tighe & Bond invest in high-resolution 3D laser scanning?

Tighe & Bond: 3D laser scanning allows us to collect detailed, high-quality information efficiently, reducing the need for repeated field visits and supporting more informed decision-making early in the project lifecycle. Beyond data collection, the investment reflects our commitment to data stewardship for our clients. High-resolution scanning enables us to deliver robust data services, manage and interpret complex datasets, and support clients as they develop and maintain their own data models. By leveraging advanced technologies, we help clients better understand existing conditions, preserve critical information for future use, and build scalable data assets that can support planning, design, and long-term operations.

EBJ: Can you tell us more about the ways in which you are using this technology and how it is being incorporated into your various projects?

Tighe & Bond: We integrate high-resolution 3D laser scanning and associated modeling tools into a variety of project types to enhance accuracy, improve efficiency, and support better client outcomes. At its core, this technology is used to capture detailed point-cloud data of existing conditions, which can then be processed into highly accurate digital models that inform design, assessment, and planning efforts. □

EBJ Award: Technology Merit: Project Delivery Technologies

In 2025, Tighe & Bond strengthened its project delivery capabilities through the strategic adoption of three advanced technologies: high-resolution 3D laser scanning, LiDAR-equipped unmanned aerial systems, and AI-enabled workflows for infrastructure asset management. These investments support greater accuracy in documenting existing conditions, improved efficiency, and more actionable, data-driven insights across the project lifecycle. High-density 3D laser scanning and drone-based LiDAR capture comprehensive site conditions early in project development, producing detailed topographic, structural, and terrain models. This approach reduces field uncertainty, enhances safety, minimizes design risk, and accelerates planning—resulting in fewer constructability conflicts and more predictable project scope, cost, and schedule outcomes. At the same time, AI-enabled infrastructure assessments significantly accelerate data processing and design analysis. Integrated with 3D scanning, AI streamlines condition assessments and feeds directly into interactive GIS platforms, providing clients with timely, transparent insights from capital planning through project execution. These technologies enable more informed decision-making and consistently improved project performance.

The biggest advancement due to AI is in the processing of drone data. Large datasets can be processed much more efficiently with less user input.... AI can be used to sift through millions of collected points and sort them into object categories, which have traditionally been highly labor-intensive tasks.

TRUE ENVIRONMENTAL INTEGRATES EXPERTS ACROSS GEOGRAPHIES & PROJECT LIFECYCLES FOR DURABLE & RESILIENT SOLUTIONS

True Environmental is a unified national environmental and infrastructure firm operating across 26 offices in 12 states and two provinces in Canada. What began in 2023 as a strategic platform of eight acquired companies has been consolidated into a single operating entity with 700 employees and $160 million in revenue.

Robert J. Meisner, SVP, Environmental Services, Matrix New World Engineering. Mr. Meisner has more than 30 years of experience in environmental engineering, remediation, and project management on diversified environmental projects for residential, commercial, major utility and industrial clients throughout New Jersey, New York, Pennsylvania, and Delaware.

Mark Rigatti, President, Sundance Consultants. Mr. Rigatti has more than 40 years of experience in the consulting, engineering, and construction industry for domestic and international government and industrial clients. Worldwide, Mr. Rigatti has simultaneously managed over 1,500 employees and more than $800 million in annual revenue.

Steve Offner, VP and Business Unit Manager of Compliance, Characterization, and Remediation, Sundance Consultants. Mr. Offner has over 38 years of experience in the environmental industry spanning portfolio operations, program/project, and field operations management. Mr. Offner provides oversight of the overall environmental/regional project portfolio, delivery process, while also remaining actively engaged in risk evaluation and mitigation, business development, and technical execution to optimize value outcomes for our clients.

Jim Harrington, Founder and CEO, Ensero Solutions. Mr. Harrington, combines executive leadership with deep technical expertise in environmental science and engineering. Under his guidance, Ensero delivers innovative remediation and water treatment solutions to clients worldwide. A pioneer in biogeochemical treatment technologies, Jim has developed groundbreaking applications for treating metals, radionuclides, perchlorate, and nitrogen compounds.

EBJ: What are the basic principles of True Environmental's strategy?

True Environmental: The True strategy follows three principles:

Specialized expertise as foundation. The technical capabilities that made each acquisition valuable—Matrix New World's regulatory compliance, engineering and remediation capabilities, Ensero›s mine closure and water management depth, Padre's California presence coupled with Sundance's nationwide compliance, natural and cultural resources and remediation capabilities for government assets —form the core competencies of the unified firm. Domain knowledge has been preserved, not diluted.

Unified operating platform. True operates on shared systems for project delivery, safety protocols, and digital infrastructure. This operational backbone allows specialized teams to collaborate seamlessly on multidisciplinary projects without the friction of disparate platforms.

Common culture and mission. The entrepreneurial drive that built each legacy firm has been codified into "One True" values centered on technical rigor, client accountability, and sustainable solutions. The entire organization operates under a single mission.

This integration strategy delivers immediate competitive advantages. True deploys water resources, coastal, and marine engineers from the Mid-Atlantic, dredging specialists from New England, and mine closure specialists from the Mountain West and Canada on single brownfield redevelopments—capabilities that would require multiple consultants from competitors. The firm competes for larger contracts with greater technical range while maintaining the responsiveness of a specialized consultancy. As climate infrastructure demands intensify—PFAS remediation, grid resilience, water reuse, ecological restoration—True delivers comprehensive solutions from a single integrated team.

EBJ: True Environmental brings together firms operating across various environmental segments. How do you describe the strategic logic of the platform today?

True Environmental: Our strategic logic revolves around the objective of providing environmental problem-solving excellence through the alignment of platform firm's various skills and capabilities. The most complex environmental challenges today aren't single-discipline problems. They involve the intersection of restoration, remediation, water management, infrastructure, and regulatory compliance. Our platform brings together specialized firms that lead in their local markets and technical expertise, then integrates them through shared execution standards, safety protocols, and client service.

The strategic logic is simple: create an organization that serves clients across the full lifecycle of a project—from assessment through design, permitting, construction, restoration, remediation, and long-term monitoring. That end-to-end capability matters because clients increasingly want certainty of outcome, not just a report.

We're responding to market reality. Regulations are ever changing, water constraints are increasing, climate impacts are becoming a reality and redevelopment timelines are compressing. We help clients make decisions with solutions that are technically defensible, practical, and executable by providing best practices and lessons learned that engage the firm wide capabilities to solve our clients most challenging problems.

EBJ: Where do you see the strongest synergies emerging between remediation, water, and infrastructure work?

True Environmental: The strongest synergies emerge where environmental constraints directly shape what can be built, how fast, and what risks remain afterward. Three areas stand out:

Integrated site strategy

Many sites require simultaneous remediation and water planning—stormwater, groundwater, dewatering, treatment, discharge compliance all involving infrastructure to support the outcome. Planning these together ensures effective results and avoids costly redesigns and permitting delays.

Water-driven remediation complexity

Groundwater conditions control remedy selection, infrastructure needed, cost, and long-term liability. Integrating water expertise (hydrogeology, treatment systems, discharge permitting) creates better outcomes with fewer unintended consequences.

Constructability and certainty

Remediation and infrastructure converge operationally. Clients want remediation solutions that are constructible, resilient, and compatible with future land use. Early coordination between remediation, water, and infrastructure teams improves schedule reliability and reduces change orders.

These synergies help clients move from environmental compliance to asset readiness.

EBJ: How would you characterize the remediation market today compared to five years ago?

True Environmental: More active, more time-sensitive, more complex. Demand is stronger in many regions, driven by redevelopment, infrastructure investment, regulatory dynamics, and heightened regulatory expectations. We're also seeing tighter labor, longer procurement cycles, and greater scrutiny around cost and schedule certainty.

Clients are more focused on outcomes that pass multiple tests, such as regulatory closure, long-term liability protection, community acceptance, and alignment with sustainability objectives. Remediation is increasingly a strategic business decision tied to property value and asset risk, not just a technical solution.

EBJ: What contaminants, site types, or legacy issues are driving the most activity?

True Environmental: Traditional legacy contamination remains strong: chlorinated solvents, petroleum hydrocarbons, metals, brownfields, landfills, and rail/port/logistics sites with aggressive redevelopment timelines.

But there's clear acceleration around emerging issues. PFAS and other emerging contaminants, vapor intrusion as a redevelopment gating item, sediment and surface water interface projects, and legacy infrastructure sites where subsurface conditions complicate cleanup and construction.

The key theme is that many sites now have overlapping issues—chemical impacts, water constraints, and redevelopment design challenges all at once.

EBJ: Are clients more focused on speed, certainty, sustainability, or long-term liability? And how has that changed?

True Environmental: All four, but the balance has shifted toward certainty and liability management, with speed close behind.

Five years ago, projects were driven primarily by cost and compliance milestones. Today, owners ask: "How do we achieve closure that holds up long-term? What's the path with fewest regulatory surprises? How do we reduce the risk of reopening this site?"

Speed remains critical, but it's "speed with certainty." Clients want schedules they can trust, not optimistic assumptions.

Sustainability has become operational. Clients ask about reducing truck trips and disposal volumes, energy-efficient treatment, beneficial reuse, and carbon-conscious alternatives that don't increase risk.

The market has moved toward risk-adjusted decision-making with defensible, durable outcomes.

EBJ: How has climate resilience influenced remediation planning?

True Environmental: Climate resilience is now a meaningful input, particularly for sites affected by flooding, extreme precipitation, sea level rise, and shifting groundwater conditions.

We see resilience influence remedy selection, engineering controls designed for storm intensity and erosion, groundwater management under variable conditions, infrastructure compatibility for resilient land use, and long-term O&M planning for stress conditions.

Climate resilience has shifted remediation planning from "what works today" to "what will still work in 10–30 years."

EBJ: At what pace are new remediation technologies being introduced today?

True Environmental: Strong and accelerating, particularly with the integration of AI, in situ treatment, treatment train optimization, real-time monitoring, data analytics, and approaches that reduce energy and material intensity.

But the most notable shift isn't just the number of technologies. Remediation is improving through better site characterization, smarter mass-removal design,

Clients are focused on outcomes that pass multiple tests: regulatory closure, long-term liability protection, community acceptance, and alignment with sustainability objectives. Remediation is increasingly a strategic business decision tied to property value and asset risk, not just a technical solution.

integrated construction approaches, and more reliable performance monitoring.

The result: a market that's both innovative and increasingly focused on predictability. Technology must perform, not just promise.

EBJ: How quickly are they being accepted by regulators and owners?

True Environmental: Acceptance is improving but varies by technology, jurisdiction, and site context.

Owners adopt new technologies when they see clear benefits such as reduced schedule, reduced cost, improved closure certainty, lower long-term O&M burden, or better community acceptance.

Regulators generally support innovation but require high defensibility, especially for closure decisions. Technologies with strong performance history, clear monitoring plans, community acceptance and conservative fallback options are adopted faster.

The most successful approach: phased strategies with pilot testing, performance-based design, and adaptive management frameworks. That builds confidence while enabling innovation.

Water Management

EBJ: How has the water management market changed over the past five years?

True Environmental: Water has shifted from a supporting consideration to a primary constraint and strategic driver for development and infrastructure planning.

We've seen increased focus on supply certainty, stormwater intensity and flood risk, expectations for recharge and reuse, stronger integration into permitting and finance decisions, and heightened community visibility.

Water is now viewed as fundamental to project feasibility—similar to power, transportation access, or zoning.

EBJ: What pressures—regulatory, climatic, or economic—are driving the most change?

True Environmental: They're converging and reinforcing each other.

Regulatory: Water regulations are more stringent and outcome-focused especially around supply assurance, groundwater sustainability, and discharge compliance.

Climatic: Variable precipitation, drought, and extreme storms are changing how water systems are designed and operated.

Economic: Development timelines and capital markets demand clarity. Water uncertainty introduces risk affecting permitting, financing, and asset value.

These pressures are pushing water management toward more integrated planning, robust technical analysis, and stronger long-term governance.

EBJ: How are developers' attitudes toward water risk evolving?

True Environmental: Developers increasingly treat water risk as material business risk, not just a permitting issue.

Five years ago, many addressed water once entitlements were underway. Today they ask early-stage questions: Is supply defensible for full buildout? How will this affect financing? What's our exposure if regulations tighten? What design and operations options reduce water intensity?

Developers are also more aware that water risk affects reputation and stakeholder trust. They're more open to proactive strategies like recharge planning, water reuse, and long-term supply frameworks that support community sustainability.

EBJ: How do you see Certificate of Assured Water Supply (CAWS) influencing national conversations on water sustainability?

True Environmental: CAWS is positively influencing the national conversation on water sustainability. CAWS is a powerful example of how water policy can directly shape development outcomes by linking growth to long-term water reality. It shifts the conversation from short-term access to long-term assurance.

CAWS provides a framework other regions increasingly need: clear standards for supply reliability, defensible technical demonstration, alignment of permitting with long-term sustainability, and making water constraints visible earlier.

As water stress expands nationally, mechanisms like CAWS reinforce a key principle: sustainable development depends on planning for water over decades, not just years. It contributes to a more mature, transparent national approach to water stewardship, resilience, and growth management. □

EBJ Award: Project Merit: Ag-to-Urban Water Management

In 2025, **Matrix New World Engineering, a True Environmental** company, delivered a landmark achievement for Forestar (USA) Real Estate Group Inc. by securing Arizona's first Certificate of Assured Water Supply (CAWS) under the innovative Ag-to-Urban Groundwater Conservation Program for the Heritage West subdivision in Buckeye. This milestone was reached through a rigorous process: Matrix completed a hydrogeologic study and a 100-year groundwater model, then navigated evolving state regulations and modeling challenges to ensure compliance and sustainability. With the passage of Senate Bill 1611, Matrix guided Forestar through the new Ag-to-Urban process, relinquishing 211 acres of irrigation rights for 32,000 acre-feet of Groundwater Savings Credits. Matrix submitted the new Ag-to-Urban application on the very day the law took effect, and ADWR confirmed its completeness with no additional comments required. The project will support construction of 825 single-family homes while saving approximately 437 million gallons of water annually compared to historic agricultural use. This achievement sets a precedent for sustainable development in Arizona, enabling smart growth while protecting vital water resources.

HAEMERS BRINGS GLOBAL PERSPECTIVE TO REMEDIATION TECHNOLOGY; CONTRASTS IN EUROPE & THE USA ON REGULATIONS & RISK

Haemers Technologies is a European-based environmental remediation technology company specializing in advanced thermal treatment of contaminated soils. Its US base is located in Rapid City (SD). The company traces its origins to the early 1990s, when it operated under TPS Technologies Inc., developing and deploying rotary kiln–based thermal treatment systems for contaminated soils and industrial residues. At its peak, TPS operated 14 fixed and mobile rotary kiln units across the US and Europe. While highly effective in terms of contaminant destruction, these systems involved structural limitations: mandatory excavation, large mobilization efforts, centralized treatment logistics, and high energy consumption. In Europe—where energy costs have long been structurally higher—these constraints became a key driver for innovation. Over time, Haemers shifted its focus toward in situ and pile-based thermal technologies, delivering equivalent or superior treatment performance with lower energy intensity, reduced mobilization, and the ability to treat soil on site.

Driven by circular-economy considerations, Haemers divested all rotary kiln assets more than 15 years ago, fully committing to technologies that preserve soil functions and minimize transport, waste generation, and energy use. Today, Haemers employs approximately 70 professionals and operates across Europe, North America, the Middle East, Asia, and Africa. In 2024, the company generated approximately $12 million in revenue, with sustained profitability and a strong contracted backlog reflecting steady growth in both project execution and technology licensing.

Jan Haemers, Founder and CEO. Mr. Haemers has more than 30 years of experience in thermal soil remediation, technology development, and international project execution. He is named inventor on more than 60 patents and has led the development and deployment of multiple first-of-their-kind remediation technologies worldwide.

EBJ: How has your technology portfolio expanded beyond traditional thermal remediation?

Haemers: Historically, thermal remediation was perceived as a mature and relatively narrow toolset focused on volatilizing contaminants and managing off-gas streams, often through centralized systems such as rotary kilns. While effective, these approaches required excavation, extensive logistics, and high energy input, limiting flexibility and increasing overall environmental footprint. Over the past decade, Haemers' technology portfolio has evolved beyond this traditional framing. An initial transition from centralized rotary kiln treatment to pile-based and in situ thermal applications significantly reduced mobilization efforts, transportation, and energy consumption while enabling on-site treatment. This shift also aligned with growing expectations around circularity and soil preservation.

More recently, the portfolio has expanded from removal-oriented treatment toward destruction-oriented remediation. Rather than transferring contaminants from soil to another medium, newer technologies are designed to achieve molecular destruction of compounds that were previously considered difficult or impractical to eliminate at source, including PFAS, dioxins, PCBs etc.

In parallel, Haemers has addressed mercury-contaminated soils and sediments, where the objective extends beyond removal to material recovery. Advanced thermal and physical separation processes allow mercury to be volatilized and condensed as liquid metal while preserving the mineral structure of the solids. This enables recovery of reusable soil or sediment alongside recoverable mercury, rather than generating secondary waste streams.

Across contaminants, this evolution has required rethinking thermal systems not simply as heating units, but as integrated chemical and physical separation environments. Advances in thermal control, residence time management, energy efficiency, and monitoring have expanded the range of contaminants that can be treated while limiting secondary impacts. Combined with modular and deployable system designs, thermal remediation has become a more flexible platform applicable to a broader range of environmental challenges.

EBJ: How do you balance R&D, pilot deployment, and commercialization?

Haemers: Balancing research, pilot deployment, and commercialization remains one of the more complex challenges in environmental technology. At Haemers, innovation is primarily driven by operational experience rather than laboratory-only research. Development efforts are anchored in active field projects, ensuring alignment with regulatory requirements, constructability, and cost constraints.

Pilot deployment plays a central role in this process. Pilot systems are designed as early commercial configurations rather than isolated demonstrations, operating under real permitting conditions and subject to independent analytical verification. This approach shortens the transition from pilot to full-scale deployment and provides confidence to regulators, clients, and partners.

Commercialization is pursued in parallel with piloting. Engagement with customers, authorities, and partners during development helps define acceptable performance metrics and operating envelopes early, reducing the risk of divergence between technical capability and market expectations. Initial deployments typically focus on sites with high liability and visibility, after which technologies are scaled through modularization and licensing rather than centralized infrastructure investment.

EBJ: What does success look like for Haemers five years from now?

Haemers: Success for Haemers is defined less by scale than by strategic posi-

tioning. The company aims to operate as a technology provider embedded within a limited network of trusted regional partners, enabling global deployment while maintaining technical consistency.

A central objective is to maintain a close connection between application and innovation. Field deployment informs ongoing development, while innovation directly improves operational performance. In this model, success is measured not only in financial terms, but also by the ability to deliver measurable improvements in energy efficiency, circularity, and environmental outcomes.

Rather than expanding direct execution everywhere, Haemers seeks to collaborate with regional contractors and industrial partners that share comparable technical and environmental standards. Over time, this approach supports scalable deployment while preserving a continuous feedback loop between real-world application and technology development.

EBJ: How would you characterize the global remediation market today? How do remediation markets fundamentally differ between the U.S. and Europe?

Haemers: The global remediation market today is both mature and undergoing structural change. Traditional contaminants—hydrocarbons, solvents, and metals—continue to account for a significant share of activity, but emerging contaminants and legacy liabilities, particularly PFAS, are reshaping priorities, technologies, and investment patterns across regions.

A fundamental distinction between the U.S. and Europe lies in market drivers. In Europe, remediation activity remains largely regulation-driven, with a strong role played by public authorities and policy frameworks. Private-sector engagement tends to be slower and more cautious, often following regulatory clarification or enforcement. In contrast, the U.S. market is more strongly shaped by litigation exposure, liability management, and federal procurement, with CERCLA enforcement and Department of Defense contracts acting as major catalysts for action.

Decision-making criteria also differ. In Europe, environmental performance, energy efficiency, soil preservation, and circularity weigh more heavily in technology selection, even when associated with higher upfront costs. In the U.S., cost, schedule certainty, and risk transfer are often more decisive, although this distinction is narrowing as long-term liability and sustainability considerations gain prominence.

Market structure reflects these drivers. The U.S. remediation market is larger, more consolidated, and more influenced by private capital, while Europe remains more fragmented with stronger public-sector involvement. Across both regions—and increasingly in the Middle East, Asia, and Africa—there is a clear convergence toward solutions that reduce long-term uncertainty and liability rather than manage contamination indefinitely.

EBJ: Which industries are investing most aggressively?

Haemers: Investment in remediation is being driven primarily by industries with large legacy footprints, long asset lifetimes, and increasing exposure to regulatory, financial, and reputational risk.

Traditionally, the oil and gas sector has been the largest and most consistent driver of remediation investment. Decades of upstream and downstream operations have left a substantial legacy of contaminated soils and sediments, often at sites that remain operational or strategically important. As a result, oil and gas operators have increasingly shifted from short-term risk management toward remediation solutions that provide stronger long-term liability reduction, particularly where redevelopment, divestment, or asset transfer is anticipated.

More recently, the chemical industry has begun to move more decisively toward active remediation, including thermal and destruction-based approaches. Historically, many sites relied on excavation, landfilling, or containment strategies. Today, growing scrutiny around PFAS and other persistent contaminants, combined with landfill closures and tightening permitting constraints, is pushing chemical producers and downstream users to reconsider these approaches and invest in more permanent solutions.

Public authorities are also allocating increasing resources to remediation, particularly in Europe. There is a gradual but clear shift away from deferring liabilities through containment or disposal, toward solutions that reduce long-term environmental and financial exposure. This evolution is often driven by land reuse objectives, public accountability, and increasing awareness of future remediation costs.

At the same time, public pressure has increased substantially, especially in the context of PFAS. Unlike many historical contaminants, PFAS is closely linked to personal exposure pathways and public health concerns, making it more politically visible and harder to defer. This has accelerated decision-making in certain sectors and regions.

Finally, project development—including infrastructure, industrial expansion, and real estate redevelopment—remains a major driver of remediation activity. However, an estimated 70–80% of projects still rely on low-cost, short-term techniques, often with limited sustainability or long-term liability considerations. While this is slowly changing, particularly for complex sites, the transition toward more sustain-

In Europe, remediation activity remains largely regulation-driven, with a strong role played by public authorities and policy... Private-sector engagement is slower and follows enforcement. The U.S. market is shaped by litigation, liability and federal procurement, with CERCLA enforcement and Department of Defense contracts acting as catalysts.

able remediation approaches remains uneven.

EBJ: How much of the market is driven by regulation versus risk management?

Haemers: While regulation remains the primary driver of remediation activity in Europe, its influence varies significantly by region. Regulatory frameworks are generally more mature and consistently enforced in Northwestern Europe and Scandinavia, while Southern and Eastern Europe are still in earlier stages of implementation and market development. This regulatory maturity plays a critical role in shaping remediation approaches and technology adoption.

At the same time, regulatory evolution is increasingly intersecting with risk management considerations. As landfills close and permitting constraints tighten, traditional dig-and-dump strategies are becoming more difficult, expensive, and socially unacceptable. In this context, thermal treatment and other high-performance remediation technologies are being applied more frequently, particularly for complex sites, because they provide stronger guarantees of performance and long-term compliance. This transition is gradual, but clearly underway.

Rather than acting independently, regulation and risk management now reinforce one another. Regulatory frameworks increasingly clarify that managing contamination without eliminating it does not release problem owners from future liability. As a result, long-term risk management is gaining importance, particularly in the private sector, where companies are weighing short-term cost savings against long-term legal, financial, and reputational exposure. In practice, regulation sets the boundary conditions, while risk management drives decisions toward more permanent remediation solutions.

EBJ: How is climate change influencing remediation priorities?

Haemers: Climate change is influencing remediation priorities in several interconnected ways, affecting both where remediation is needed and how it is expected to be delivered.

Rather than acting independently, regulation and risk management now reinforce one another. Regulatory frameworks increasingly clarify that managing contamination without eliminating it does not prevent future liability.... risk management is gaining importance, particularly for private companies weighing cost savings against legal, financial, and reputational exposure.

First, climate-driven phenomena such as flooding, sea-level rise, droughts, and wildfires are increasing the mobilization of legacy contamination. Sites that were historically considered stable are now subject to changing hydrological and geochemical conditions, forcing regulators and problem owners to reassess long-term risk assumptions. This trend is strengthening the case for source-zone remediation, rather than containment strategies that rely on stable environmental conditions over time.

Second, climate policy is reshaping expectations around the environmental footprint of remediation itself. In Europe in particular, remediation technologies are increasingly evaluated not only on effectiveness, but also on energy consumption, greenhouse gas emissions, and material circularity. This has already led to greater acceptance—by both public authorities and private clients—of remediation solutions that preserve soil functions and reduce waste generation, even when associated with higher short-term costs.

A major inflection point is the new EU Soil Directive (2025), which establishes a harmonized framework for soil health, soil quality, and soil functions across Member States. By explicitly recognizing soil as a finite resource, the directive is expected to accelerate the adoption of in situ and on-site remediation technologies that preserve soil structure and functionality, in contrast to dig-and-dump approaches that irreversibly destroy soil functions.

Together, climate change and climate policy are pushing the remediation industry toward solutions that are not only effective and defensible, but also resilient, resource-efficient, and compatible with long-term land stewardship objectives.

EBJ: What technical capabilities exist today that were unrealistic five years ago?

Haemers: Five years ago, the idea that PFAS in soil could be fully mineralized at field scale, at an affordable cost, and without destroying the soil itself, would have been widely considered unrealistic. These three conditions—complete destruction, economic viability, and preservation of soil functions—were generally seen as mutually exclusive.

At that time, available options forced difficult trade-offs. Incineration could achieve high destruction rates but at very high energy cost and with complete loss of soil function. Containment, washing, or stabilization preserved soil volume but displaced the problem and created long-term liabilities. None of these approaches provided a convincing pathway for durable liability release at scale.

What has changed is the convergence of several technical advances. Precise thermal process control, high-temperature treatment of vapor-phase contaminants, improved energy efficiency, and robust system integration now make it possible to achieve complete mineralization of PFAS molecules in soil, including compounds that are not routinely analyzed, such as short- and medium-chain PFAS. Importantly, these technologies address the chemistry of PFAS destruction itself, rather than relying solely on compound-specific detection, allowing treatment to remain effective even when the full contaminant profile is unknown.

In parallel, large-capacity, modular treatment systems have become available, enabling on-site and near-site remediation at scales that were not previously achiev-

able. This has fundamentally changed the feasibility of treating complex and highly contaminated sites while providing a more credible long-term liability release.

These advances are not limited to PFAS. The same technological progress has enabled more effective in situ and on-site treatment of other organic contaminants, allowing complete mineralization without generating secondary waste streams. Compared to five years ago, the industry has moved from managing contamination toward genuinely eliminating it in certain applications—a shift that represents a fundamental change in what remediation can realistically achieve.

EBJ: How has PFAS changed the remediation industry?

Haemers: Taken together, these dynamics are reshaping how PFAS is addressed at a systemic level, particularly when the focus shifts from water to soil as the primary reservoir of contamination. While water treatment can reduce immediate exposure risks, it does not resolve the underlying problem. In most cases, it leaves PFAS mass in place within source zones and transfers long-term responsibility to utilities, municipalities, and ultimately citizens. From both an environmental and an economic perspective, this approach externalizes costs rather than eliminating liabilities. A soil-focused remediation strategy, by contrast, directly targets the source of contamination, aligns more closely with the polluter-pays principle, and enables durable risk reduction instead of perpetual management.

This distinction has important implications for policy and investment. Treating PFAS at the source requires technologies capable of permanently destroying the molecules while preserving soil functions, rather than displacing contamination from one medium to another. As awareness grows that soil contains the majority of PFAS mass, remediation strategies are increasingly evaluated on their ability to eliminate future risks, not merely meet short-term compliance thresholds.

The differences between the United States and Europe are particularly pronounced in this context. In the U.S., agencies such as the Environmental Protection Agency (EPA) and the Department of Defense (DoD) play a decisive role not only in regulation and enforcement, but also in funding testing, pilot projects, and applied innovation. This creates a relatively coherent pathway from research and demonstration to deployment, especially for emerging technologies addressing PFAS in soils. Federal programs provide stable budgets, continuity, and a clear signal to the market, accelerating learning and adoption.

In Europe, comparable support exists primarily at the national or regional level, resulting in fragmented initiatives with varying priorities, funding mechanisms, and timelines. While some countries have developed strong programs, the absence of a consolidated EU-level innovation and testing framework makes scaling more difficult and slows cross-border learning.

This fragmentation is further reinforced by the political dynamics surrounding PFAS. In Europe, public and political attention often rises sharply in response to localized contamination events, leading to what could be described as national or regional PFAS "panic." As a result, PFAS remediation has become a high priority in countries such as Scandinavia, the Benelux, and Germany, while remaining far less visible in Southern and parts of Eastern Europe. The challenge moving forward is to move beyond reactive, country-by-country responses toward a more consistent, soil-centric strategy that addresses PFAS as a long-term environmental liability rather than a series of isolated crises. □

EBJ Award: Technology Merit: Krysalis for PFAS Remediation

Krysalis represents a technological inflection point in PFAS remediation as the first field-proven system that fully destroys PFAS in soil—including the most persistent short-chain molecules such as TFA and CF?—while preserving soil for direct reuse, according to Haemers Technologies. Demonstrated under national regulatory supervision in Denmark in 2025, the technology combines controlled thermal desorption with high-temperature wet combustion at 1,400 °C to achieve complete mineralization into stable end-products (HF, CO?, SO?) with no secondary waste stream. Engineered for real-world deployment, Krysalis offers modular, scalable capacity: from 200-ton units (3,500–4,000 t/year) to integrated multi-module systems treating up to 5,000 tons, enabling rapid mobilization at industrial, military, and airport sites. Operating costs of <$250/ton and energy demand of ~300 kWh/ton position it as a cost-competitive alternative to incineration and concentration-based methods, with the added advantage of onsite treatment and reduced liability. Krysalis provides what the PFAS market has lacked: a verifiable, economically viable destruction pathway that eliminates long-term liabilities rather than shifting them. Supported by growing patent protection, an advancing prototype program, and strong interest from key industrial and government stakeholders, Krysalis is positioned to become a cornerstone environmental remediation technology.

Treating PFAS at the source requires technologies capable of permanently destroying the molecules while preserving soil functions, rather than displacing contamination from one medium to another. As awareness grows that soil contains the majority of PFAS mass, remediation strategies are increasingly evaluated on their ability to eliminate future risks, not merely meet short-term compliance thresholds.

HSG LEADERSHIP TRANSITION OPENS PATH TO AGGRESSIVE GROWTH STRATEGY; KEY PROJECT WINS ON GOLDEN DOME AND SPACE LAUNCH

Herndon Solutions Group (HSG) is a women-owned business serving federal and commercial entities including NASA, the Department of Interior and its bureaus, the EPA, U.S. Space Force, and U.S. Forest Service, as well as state and local government agencies. HSG delivers environmental, occupational health, and industrial hygiene services as well as emergency response planning to government and commercial clients. With an all-inclusive team of energetic and qualified professionals focused on our core values of integrity, commitment, and teamwork, HSG provides high-quality solutions while promoting an environment of work-life integration for all employees. With approximate revenues of $40 million, HSG employs more than 200 professionals with a presence both nationwide and internationally, and has been recognized as a 2025 VETS Indexes Employer in recognition of its commitment to supporting veterans.

Tonya Sitko, President and CEO. Ms. Sitko brings more than two decades of executive experience in pivotal roles across the defense, space, and technology sectors, where she has developed a systems-level approach to operational transformation, regulatory compliance, and scalable enterprise growth. Prior to leading HSG, she served as Deputy Chief Financial Officer at SMX and held senior roles at Trident Technologies and GaN Corporation. Her career includes extensive programmatic leadership on critical U.S. Army modernization and Department of Defense initiatives.

EBJ: How would you describe HSG's evolution over the past five years?

Sitko: HSG has transformed from a highly capable federal environmental services contractor into a data-driven, multidisciplinary technical provider with expanded capacity, deeper subject-matter expertise, and a more strategically positioned footprint in the federal and public-lands environmental sector.

From a capabilities standpoint, HSG's evolution has been defined by the depth and continuity of its technical expertise, particularly in complex CERCLA, watershed, and mining-impacted land projects. The company's sustained support to the Bureau of Land Management at the Bonita Peak Mining District (BPMD), including 57 task orders under six DOI contracts, demonstrates its ability to deliver long-term, multi-phase technical services ranging from expanded site inspections and removal action memos to long-term monitoring plans and litigation/cost-recovery support. This continuity provided institutional knowledge that strengthened analytical accuracy, regulatory compliance, and decision support for the client. HSG also maintained the Administrative Record and developed advanced data-management and cost-tracking systems that increased efficiency and improved the fidelity of reporting and documentation.

In terms of scale and operational maturity, HSG grew into a more robust, enterprise-level contractor capable of managing high-volume, multi-year programs across numerous task orders. The organization delivered consistent annual fieldwork—including multi-season sampling in alpine conditions—with zero incidents, illustrating strengthened safety culture and operational controls. The company expanded its monitoring and watershed-assessment capabilities by partnering with specialized subcontractors such as Alpine Water Resources, integrating expertise ranging from hydrology to avalanche-certified field personnel.

From a strategic positioning perspective, HSG transitioned from being primarily a technical support contractor to becoming a trusted long-term advisor to federal clients. Its stewardship at Bonita Peak - including data integration, cost-recovery support, administrative record development, and ongoing monitoring - aligned HSG with the federal government's need for partners able to manage complex, multi-year Superfund and land-management programs. This shift positions HSG strongly for expanded work in CERCLA, watershed restoration, public-lands management, data systems modernization, and long-term environmental monitoring across DOI, EPA, NASA, and other agencies.

Collectively, these advancements reflect an organization that has increased in sophistication, resilience, and strategic relevance, evolving from a capable project contractor into a high-value, innovation-driven environmental solutions partner with the scale and expertise to support some of the nation's most complex environmental challenges.

EBJ: How would you describe how you managed the transition from a founder-led company to a larger platform for growth while maintaining client relationships and employee engagement, as well as contract status?

Sitko: I would characterize it as a planned and thoughtful transition rather than a public transaction. The founder reached a point where it made sense to bring in new leadership to scale the business for its next chapter, while preserving the culture, independence, and woman-owned status that define the company. There was no broad public announcement because it wasn't a disruptive sale in the traditional sense (the founder was heavily involved in transition, performed some direct work for us in areas where she served as an SME, and continued as a board member for another year).

Clients and partners were informed directly, and the focus was intentionally on continuity and growth rather than publicity. Scaling the business has certainly had an impact to the growth culture as this had not been a primary focus area previously – so it's been a learning experience for the existing leadership team, and I would characterize that as both exciting and demanding for me.

As far as the ownership strucure, a group of women investors (with a minority investment from a PE firm) bought the company from the founder Christine

Herndon to maintain the woman owned status. As to contract transitions, those have been navigated successfully and without much impact. We have had to develop small business subcontracting plans (as we are now considered large in our primary NAICS) – so developing relationships with small businesses have been important to us over the last year. I have been very pleased with the entities we've been dealing with. There are a ton of highly competent professionals in the environmental industry.

EBJ: Which client segments have been growing fastest for HSG, and why now?

Sitko: Over the past 18 months, HSG has seen significant acceleration across several key client segments, most notably within the Department of War (DoW), energy, and commercial construction sectors. These markets are expanding rapidly for HSG due to their increasing need for complex environmental, safety, and infrastructure expertise, as well as the company's renewed strategic direction under its refreshed corporate leadership team established in October 2024. This leadership shift has broadened HSG's reach, deepened our industry partnerships, and clarified how our core capabilities directly support emerging client needs across high growth industries.

HSG's growth within the DoW has been catalyzed by our recent major win under the SHIELD (Golden Dome) IDIQ. This award demonstrates federal confidence in HSG's ability to support high-risk and high-visibility defense operations.

The acceleration across these segments is tied directly to HSG's corporate ownership and leadership transformation in October 2024, which recalibrated the company's strategy, market positioning, and operational alignment. A key component of the transition included the formation of an aggressive strategic plan for growth focused on the following:

Broader Industry Access and Relationships: Expansion of HSG's visibility and partnerships within defense, energy, and commercial markets, opening doors to major new clients and large contracting vehicles.

Clearer Integration of HSG's Full Capabilities: Bringing Environmental Planning, Energy & Nuclear Services, Community Engagement, Critical Infrastructure, Health & Safety, Aerospace & Defense, and Advanced Technology under a unified strategy has allowed clients to see HSG as an end-to-end solutions provider, not a niche service vendor.

Strengthened Technical Bench and Scalable Delivery Model: With IS certified systems, GSA MAS, an approved accounting system, and over $350M in scalable federal contract experience, HSG can take on larger, more complex portfolios than ever before.

Growing Market Demand for Integrated Solutions: All three expanding sectors, DoW, energy, and commercial construction, are grappling with issues like rising regulatory expectations, climate resilience demands, and operational complexity. HSG's multidisciplinary skillset aligns perfectly with these needs.

Aggressive Growth Strategy

EBJ: What's one decision HSG made in the past few years that changed your growth curve?

Sitko: The single most consequential decision HSG made in the past few years and the one that fundamentally changed our growth trajectory was implementation of an aggressive growth strategy. This strategic shift not only modernized the company's direction but also transformed how HSG positions, integrates, and delivers its capabilities across the markets we serve.

Before 2024, HSG had strong technical depth, a solid reputation in environmental and health & safety services, and a history of successful government performance. However, our capabilities were largely viewed by the market as individual service lines rather than as a unified, full-service platform.

The new implementation recalibrated the company's strategy, focusing on three core changes:

Expanded Industry Reach and Relationship Development: The leadership transition opened the door to new partnerships and client networks, particularly within: Department of War (DoW) and the broader defense community, energy, pipelines, and nuclear sectors, commercial construction and data center development. This expansion directly contributed to major wins such as the SHIELD (Golden Dome) IDIQ, new engagements with oil & gas pipeline operators, and growing portfolios with global energy companies and hyperscale data center builders. These were markets that previously had been difficult to enter and scale. The leadership change broke that barrier.

Integration of All HSG Capabilities into a Single Market-Facing Platform: The new leadership strategically unified HSG's diverse technical strengths Environmental Planning, Due Diligence, Energy & Nuclear, Community Engagement, Health & Safety, Critical Infrastructure, Aerospace & Defense, and Advanced Technology into a cohesive, solutions driven model. This helped clients finally see HSG not as a niche environmental contractor, but as a full-service, mission critical partner capable of handling complex multidisciplinary programs. That shift reshaped how agencies and commercial clients evaluate us, opening the door to larger, longer-term, and more technically challenging opportunities.

A Modernized Growth Strategy Built Around Mission Assurance, Sustainability, and Technology: The leadership transition placed heavy emphasis on: Integrated service delivery, predictive analytics and advanced technology, regulatory excellence, client centered risk reduction, and high consequence mission support. This sharpened strategy aligned perfectly with market trends across defense modernization, energy infrastructure renewal, and sustainable data center development. As these industries accelerated, HSG was already positioned to meet their needs because the leadership decision aligned our capabilities with the future, not the past.

In practical terms, the leadership transition didn't just influence growth; it reset HSG's trajectory. The company shifted from steady, capability driven contracting to strategic, market shaping growth sup-

Mine impacted watersheds are a growth area... with complex hydrologic systems, diffuse loading, unstable mine features, and large geographic footprints. Agencies are increasing investment in watershed scale investigations... requiring extensive field sampling, geochemical interpretation, data integration, and support for long term monitoring programs.

ported by a unified brand, expanded relationships, and stronger alignment between what we offer and what our fastest growing clients need most.

EBJ: Bonita Peak is described as "one of the nation's most complex Superfund sites." What makes it complex in ways outsiders don't appreciate?

Sitko: Bonita Peak is far more complicated than the typical Superfund site because it is not a single location. It is an interconnected network of legacy mines, adits, waste rock piles, tailings, and highly variable hydrologic pathways spread across steep alpine terrain. The watershed behaves as a dynamic system, where conditions shift rapidly based on weather, snowmelt, and storm events. Understanding how metals move through this system requires integrating information from dozens of distinct source areas that cannot be evaluated in isolation.

Access adds another layer of complexity. Field teams have only a few months each year to reach many of the sites due to snowpack, avalanche hazards, and high elevation weather. Even within that short window, conditions can change quickly, requiring flexible sampling plans and constant reassessment of site safety and logistics. Many of the features lie in areas with limited or no communication infrastructure, which complicates coordination, emergency procedures, and verification of site conditions.

The volume of historical data and documentation also contributes to the complexity. The district covers more than a century of mining activity, with thousands of records spread across federal offices, contractors, and databases.

Consolidating, validating, and interpreting these records requires sustained effort and deep familiarity with the site's history. Administrative record management, cost tracking, and data harmonization become as critical as field work.

Another factor that outsiders often miss is how many parties have overlapping interests. Federal agencies, local governments, private landowners, and community stakeholders all play a role, and their priorities do not always align. Each site within the district may be at a different stage of assessment, removal, or monitoring, and coordinating actions requires constant communication and careful sequencing to avoid delays or conflicts.

Finally, the hydrology and geology amplify the challenge. Mine features are situated in fractured rock with complex groundwater and surface water interactions. Multiple contaminant sources contribute to overall loads, and these contributions vary seasonally. Identifying which sources matter most for human and ecological risk requires a watershed-scale perspective supported by continuous data collection, geospatial analysis, and long-term monitoring.

In short, Bonita Peak is complex because it behaves like an integrated system rather than a set of discrete sites. The combination of rugged terrain, limited access, shifting environmental conditions, extensive historical records, dispersed contaminant sources, and diverse stakeholder requirements makes it one of the most challenging Superfund environments in the country.

EBJ: What field methods did you lean on most?

Sitko: At Bonita Peak, the work required a combination of traditional field science and advanced data integration techniques. The watershed contains multiple contaminant sources that shift seasonally, so the team depended on methods that provided both reliability and adaptability.

Traditional field sampling was the primary backbone of the program. This included surface water, sediment, soil, tailings, and waste rock sampling across multiple watersheds and elevation zones. HSG routinely collected upstream and downstream samples at mine features to quantify contaminant loading and identify source contributions. These methods also included streamflow measurements, surveys, and field observations needed to understand hydrologic pathways.

Long term monitoring was another major component. The site is only accessible during a short field season, so sampling events had to be precise, tightly coordinated, and consistent year over year. Monitoring plans written by HSG covered as many as ten sites and required repeated seasonal sampling, flexible scheduling to avoid removal actions, and strict adherence to the quality assurance project plan and EPA requirements.

Geospatial analysis and remote sensing played an important supporting role. The team used GIS to map historical and newly identified features, track changes to site conditions, determine sampling locations, and integrate high volumes of analytical and historical records. Remote methods such as infrared stream surveys were also used in expanded site inspections to identify cold and warm water inputs that help pinpoint contaminant pathways.

Database and historical data integration were equally critical. Bonita Peak has thousands of documents from more than a century of mining activity, so HSG built and maintained analytical databases, administrative records, and cost tracking tools to support decision making and regulatory compliance. These systems allowed ingestion of field data, historical records, and contractor reports into a single reference for modeling watershed behavior.

Continuous monitoring and automated instrumentation were used selectively. Because of extreme alpine conditions and limited access windows, the site does not support year-round continuous monitoring at all locations. Instrumentation could be deployed only if safe and maintainable. As a result, continuous monitoring supplemented but did not replace traditional field campaigns.

Specialized subcontractor-supported methods were used where required by terrain and conditions. For example, some monitoring relied on hydrologists and field personnel with avalanche certifications due to the winter sampling needs and unpredictable alpine conditions.

Bioassessment methods were used where ecological risk needed additional clarification. These assessments complemented chemical sampling by evaluating potential exposure pathways and ecological receptors within the watershed.

Overall, the team relied most heavily on traditional sampling, seasonal long-term monitoring, geospatial analysis, and integrated data systems. These methods created a consistent and defensible technical foundation in a watershed where access constraints and environmental volatility make every field effort complex and time sensitive.

Remediation Market

EBJ: Where is the Superfund remediation market growing fastest?

Sitko: The Superfund remediation market is expanding across several fronts, but the fastest growth is concentrated in areas driven by urgent human health concerns, regulatory pressure, and large federal funding streams.

PFAS sites are experiencing the most rapid growth. Federal and state agencies are accelerating PFAS investigation and cleanup due to new drinking water standards, expanded toxicological findings, and national enforcement priorities. PFAS work now spans municipal systems, industrial facilities, landfills, airports, and military installations. Because PFAS contamination is widespread and often requires multiple lines of evidence, the demand for specialized sampling, treatability assessment, and long-term monitoring continues to rise.

Mine impacted watersheds are another major growth area. These sites present complex hydrologic systems, diffuse loading, unstable mine features, and large geographic footprints. Agencies are increasing investment in watershed scale investigations because they provide more accurate prioritization and reduce long term costs. Work in these watersheds requires extensive field sampling, geochemical interpretation, data integration, and support for long term monitoring programs.

Sediment sites are expanding rapidly as well. Urban rivers, harbors, and industrial waterways are now subject to more aggressive cleanup actions due to public pressure and redevelopment goals. Sediment projects often require dredging, capping, habitat restoration, and long-term monitoring, which increases the scale and duration of remediation.

Vapor intrusion is accelerating as more states adopt screening levels and building mitigation requirements. This growth is strongest in urban redevelopment, military housing, industrial properties, and former dry cleaning or manufacturing areas. The need for rapid assessment and building mitigation solutions has created continuous demand.

Landfills and closed disposal sites are also generating increased work, largely because maturing facilities face new compliance obligations, gas and leachate management needs, and updated risk requirements. Many of these efforts involve groundwater investigations, long term monitoring, landfill gas controls, and remedy optimization.

Emerging contaminants extend beyond PFAS and are shaping the next wave of Superfund work. Pharmaceuticals, microplastics, industrial additives, and combined contaminant effects are receiving more regulatory attention. As analytical methods improve and regulatory frameworks mature, these contaminants are becoming a significant driver of new site assessments and remedial actions.

Overall, the fastest growing segments are those tied to contaminants of emerging concern, watershed scale metal impacts, high profile sediment sites, and the intersection of environmental risk with community redevelopment. The market is moving toward larger, more complex, multi-pathway projects that require integrated data systems, advanced field methods, and long-term stewardship.

Changes in Client Priorities

EBJ: What's changed in client priorities?

Sitko: Across federal, state, local, and private sector clients, priorities have shifted in several clear and consistent ways. The change is driven by tightening regulations, increased public scrutiny, infrastructure investment, and greater expectation for transparency and accountability from contractors.

There is a stronger focus on risk reduction. Clients are pushing for early identification of liabilities, clearer analysis of exposure pathways, and proactive measures that prevent future failure points. They want investigations that do more than characterize contamination. They want clarity on how risks translate into operational, financial, and regulatory consequences. Many agencies now expect lifecycle risk planning rather than short-term corrective actions, and they increasingly value data-driven risk models that justify decisions and support long-term stewardship.

IDIQ structures with steady task-order flow are becoming the dominant model across defense, civilian, and infrastructure programs because they provide flexibility, surge capacity, and a streamlined path for recurring work.

Ecosystem restoration has become a higher priority. Agencies are no longer satisfied with basic compliance or removal actions alone. They increasingly request solutions that reconnect streams, restore habitat function, and improve watershed resilience. Restoration is viewed as a measurable performance indicator rather than an optional add-on. Clients want remediation strategies that support ecological health and long-term stability, especially in watersheds and on public lands where community visibility is high.

Community trust and communication play a larger role in project expectations. Clients recognize that project success depends on sustained public understanding, particularly for complex or high-profile sites. They expect contractors to maintain transparent documentation, accessible administrative records, and clear explanations of technical decisions.

Many now require community involvement plans, comment tracking, and support during public engagement processes. The emphasis has shifted from regulatory disclosure to meaningful public communication that builds confidence in the cleanup process.

Cost containment and operational efficiency have become non-negotiable. Clients face budget limitations, tighter procurement rules, and greater scrutiny on spending. They want solutions that reduce unnecessary work, shorten schedules, and minimize the need for multiple mobilizations. They value firms that deliver clean, audit-ready documentation, show clear reasoning behind cost estimates, and recommend practical alternatives when full-scale remediation is not warranted. There is a rising expectation for contractors to integrate cost-saving tools, improve data management, and reduce administrative burden.

Overall, clients want high-quality work that is defensible, transparent, and efficient. They prioritize teams who can integrate technical expertise with strong communication practices, anticipate evolving regulatory requirements, and deliver restoration and compliance outcomes that stand up to public and regulatory scrutiny.

EBJ: How are procurement and contracting shifting?

Sitko: Procurement is moving toward larger enterprise vehicles that allow agencies to buy faster and with less administrative overhead. IDIQ structures with steady task-order flow are becoming the dominant model across defense, civilian, and infrastructure programs because they provide flexibility, surge capacity, and a streamlined path for recurring work.

At the same time, agencies are shifting toward performance-based contracting. Instead of prescribing activities, customers are defining outcomes and expected results, pairing them with clear metrics, KPIs, and data-driven reporting requirements. Contractors are expected to demonstrate integrated management systems, consistent quality control, and the ability to deliver measurable improvements.

Data deliverables are also becoming central to every award. Agencies want structured digital outputs, transparent cost documentation, audit-ready records, and standardized deliverables that feed directly into internal systems. This is driving a higher bar for traceability, compliance documentation, and real-time visibility into project performance.

Overall, procurement is prioritizing speed, accountability, and data clarity. The firms that succeed are those that can operate effectively within enterprise IDIQ environments, deliver measurable performance, and provide high-fidelity data products that support faster decision making.

EBJ: Where do you see the biggest bottleneck in Superfund delivery today?

Sitko: The most persistent bottleneck in Superfund delivery is the field season constraint, especially in mountainous and remote mining districts where access, weather, and terrain restrict work to a narrow annual window. Projects like the Bonita Peak Mining District require all sampling, surveying, and cultural resource tasks to be completed between late spring and early fall, otherwise agencies face almost a full year of delay.

Because field access drives the entire project schedule, a single delayed approval or slow document turnaround can push critical work past snowpack or wet-weather cutoffs. Field season limits also intensify competition for crews, subcontractors, equipment, and laboratories during the same crowded months, magnifying schedule risk.

A close second bottleneck is coordinating multi-party stakeholder expectations, especially where federal land managers, state regulators, local communities, and legacy operators must agree on sampling design, access decisions, and risk assumptions. These coordination cycles are often iterative and can slow progress even when technical work is ready to proceed.

In short, while permitting and funding cycles matter, the biggest systemwide brake on progress remains the reality that you get only one shot per year to execute key field tasks, and any upstream delays ripple into yearlong impacts. Stakeholder alignment compounds this pressure by adding additional steps that must be fully resolved before mobilization can occur.

Space Launch Services Practice

EBJ: Tell us about your Space Launch Services Practice.

Sitko: HSG's space launch services practice supports government and commercial launch providers with the integrated environmental, industrial hygiene, and radiological expertise needed to keep modern spaceports safe, compliant, and mission-ready. Our teams work across the full launch cycle, helping organizations navigate environmental reviews, permitting pathways, coastal and ecological monitoring, and the complex regulatory landscape that comes with high-energy propulsion, hazardous materials, and sensitive natural environments.

In the fast-paced world of launch operations, HSG brings deep capability in industrial hygiene and health physics, providing air and contaminant exposure assessments, ventilation and engineering control evaluations, hazardous materials oversight, radiation surveys, sampling, monitoring, and readiness assessments for

mission-critical facilities. That includes support for payload processing, propellant transfer areas, ground systems, confined or high-hazard workspaces, and any environment where chemical, particulate, or radiological risk requires tight control. Our teams deliver real-time field oversight, defensible sampling and analysis, and clear documentation that withstands audit scrutiny and accelerates mission approvals.

We pair these technical strengths with broad environmental capabilities: NEPA and resource assessments, cultural and biological surveys, waste management planning, stormwater and spill prevention programs, and shoreline and ecosystem monitoring adjacent to launch infrastructure. This integrated approach reduces delays by ensuring that environmental compliance, workforce protection, and operational risk mitigation move in parallel rather than in silos.

What distinguishes HSG is our ability to embed with launch organizations and operate as a seamless extension of spaceport operations. We combine technical depth in industrial hygiene and radiological control with environmental planning, emergency readiness, and rapid-response support, creating a single point of accountability for managing risk in environments where even small issues can ripple into major schedule impacts. The result is faster decision making, stronger regulatory confidence, and safer turnarounds for high-tempo launch campaigns.

EBJ: What are the highest-risk environmental issues unique to space launch operations?

Sitko: The highest-risk environmental issues around space launch operations stem from the extreme chemistry, energy, and physical forces concentrated in a small footprint. Hypergolic fuels and oxidizers remain among the most acute hazards, requiring continuous monitoring during storage and transfer because even trace releases pose toxic and corrosive risks. Propellants such as LOX, LH_2, methane, and RP-1 add their own risks through rapid phase changes, combustibility, and cryogenic exposures. Pad ordnance and flight termination systems introduce blast and debris hazards that must be quickly contained and cleaned after launch operations.

Radiation sources associated with spacecraft systems create additional concerns, requiring controlled handling, surveys, and waste management to prevent contamination or exposure. Launch acoustics and the associated deluge systems can drive localized environmental effects by spreading particulates, acidic residues, and thermal loads into ponds, wetlands, and shoreline environments.

Taken together, these hazards make launch complexes some of the most challenging industrial environments to manage, with risks that span toxic chemistry, cryogenics, explosives, radiation, and ecosystem-level impacts.

EBJ: Which clients drive the most demand today?

Sitko: Client demand is strongest where launch cadence, regulatory pressure, and operational risk intersect. NASA and the U.S. Space Force continue to anchor the market, driving steady demand for environmental compliance, industrial hygiene, radiation control, and emergency response across active spaceport campuses.

At the same time, commercial launch providers and spaceport operators are generating the fastest expansion. Their need to meet NASA-level standards while scaling higher flight rates has accelerated demand for permitting support, hazard analyses, IH and health physics monitoring, and integrated environmental programs.

FAA-linked licensing work contributes, but the bulk of today's activity is shaped by NASA and USSF requirements, with commercial operators rapidly closing the gap as they mature operationally and face more complex environmental and safety expectations. □

The highest-risk environmental issues around space launch operations stem from the extreme chemistry, energy, and physical forces concentrated in a small footprint.

EBJ Award: Project Merit: Sustainable Watershed Remediation

Herndon Solutions Group (HSG) partnered with the Bureau of Land Management (BLM) to advance remediation strategies in the Bonita Peak Mining District, one of the nation's most complex Superfund sites. HSG investigated more than 40 mine-impacted locations using a watershed-level approach, evaluating features such as draining adits, waste rock, tailings, and groundwater interactions to determine their influence on water quality and ecological risk. This holistic methodology enabled BLM to prioritize cleanup actions at sites with the greatest potential to improve downstream water quality and reduce human and ecological exposure. In addition, HSG developed a comprehensive database integrating decades of historical data with new field investigations, creating a centralized resource for long-term management. The program transitioned in 2025 from active remediation to long-term monitoring, marking a major milestone in restoring water quality and safeguarding public lands. By combining technical innovation, data-driven decision-making, and local workforce engagement, HSG delivered a model for sustainable watershed remediation that strengthens environmental stewardship and community resilience. □

GEO REMEDIATION SEES THE REMEDIATION INDUSTRY IN TRANSITION: CONVERGENCE OF LOW-EMISSION HEATING, ADVANCED VAPOR CAPTURE, AND DIGITAL INTELLIGENCE

GEO Remediation Company is a provider of remediation solutions, executing projects across more than 15 countries with expertise in delivering customized solutions for gas thermal remediation and C3 soil vapor extraction treatment systems.

Dr. Xiaosong (Jason) Chen, Director of Environmental Engineering has designed and managed more than 60 soil and groundwater remediation projects since 2002 with a focus on thermal remediation technology for the U.S. EPA, environmental consulting companies, and at national environmental laboratories.

Environmental remediation is entering a new phase of technological maturity. For decades, cleanup programs were designed around individual treatment technologies—soil vapor extraction, chemical oxidation, biological treatment, or thermal remediation—selected primarily based on contaminant type. Today, regulators, industrial site owners, and infrastructure developers increasingly require remediation systems that deliver not only effective contaminant removal, but also predictable execution, measurable emission control, and transparent environmental performance throughout the treatment lifecycle.

These evolving expectations are accelerating the industry's transition from technology-centered solutions toward performance-integrated remediation platforms capable of managing contaminant mobilization, extraction, capture, and operational data analytics as a unified engineering system. Rather than selecting technologies independently, remediation engineering is increasingly focused on designing coordinated treatment architectures in which heating, extraction, vapor recovery, and monitoring systems function as a single performance envelope.

From Component Technologies to Performance-Integrated Platforms

Geo Remediation Company (GEO), founded in 1989, has evolved alongside this broader transformation. GEO's remediation portfolio spans soil, groundwater, and high-strength vapor-management systems, with thermal remediation representing one component of a broader integrated platform. While the company's early engineering focus was on the treatment of high-concentration industrial vapor streams, its current evolution reflects the convergence of low-emission heating technologies, advanced vapor recovery, and machine-learning-assisted operational intelligence supporting complex cleanup programs across North America, Europe, Asia, and Australia.

A central engineering principle guides the company's development: remediation performance depends not only on treatment intensity but on the coordination of heating, extraction, and vapor-management systems operating together. High-mass source zones require simultaneous mobilization and capture of contaminants; otherwise, increasing treatment intensity alone can overwhelm extraction systems, create emission risks, and reduce operational reliability. Integrated remediation platforms therefore emphasize balanced system design, where contaminant mobilization (heating) and recovery (extraction and treatment) are engineered as a unified process.

Optimizing Thermal Delivery

Within this integrated framework, thermal technologies serve as the primary contaminant-mobilization engine for high-mass source zones. In-situ thermal remediation plays a key role in treating contaminants that are difficult to address using conventional extraction or chemical treatment alone. Gas-powered thermal delivery systems provide operational flexibility independent of local electrical infrastructure, enabling predictable deployment in utility-limited industrial and redevelopment environments. Once subsurface heating reaches steam-range or elevated temperatures, volatile and semi-volatile contaminants are mobilized and extracted through soil vapor extraction and multi-phase extraction systems. Field experience has shown that sustained heating duration combined with efficient vapor capture is often more critical than achieving extreme peak temperatures, allowing substantial contaminant mass removal under stable operating conditions while reducing total energy demand.

Complementing in-situ heating, ex-situ thermal desorption systems provide a flexible pathway for excavated soils, sediments, and industrial fill materials requiring rapid source removal. Adjustable throughput and operating temperatures allow treatment designs to balance cleanup targets, energy consumption, and project schedules, making ex-situ thermal treatment particularly valuable for redevelopment-driven cleanup programs.

Closing the Loop: The C3™ Vapor-Recovery Platform

Historically, vapor treatment has often been the limiting factor in high-mass remediation projects, even when heating performance is sufficient. High-concentration vapor streams frequently exceed the effective operating range of conventional oxidation or adsorption systems, constraining extraction intensity and overall cleanup performance.

To address this challenge, GEO developed the C3™ (Cryogenic-Compression-Condensation) vapor-recovery platform, which converts extracted contaminant vapors directly into liquid product streams through multi-stage compression and cryogenic condensation. Because the process is based on physical phase separation rather than combustion, it can treat extremely high influent concentrations of VOCs, PAHs, and other industrial contaminants without dilution or combustion by-products.

By eliminating fuel-fired oxidizers and reducing the use of granular activated carbon, the system lowers lifecycle carbon intensity while routinely demonstrating greater than 99 percent vapor-phase capture. Recovery of contaminants as measurable liquid condensate enables near-complete mass-balance accounting, transforming remediation from an estimated process into a quantifiable engineering discipline.

Addressing Emerging Contaminants

Integrated thermal remediation and advanced vapor-recovery systems are also supporting the treatment of certain classes of emerging contaminants, including PFAS source zones associated with historical industrial releases. While PFAS compounds exhibit exceptional chemical stability, sustained steam-range heating combined with high-efficiency vapor extraction has demonstrated the ability to mobilize a measurable fraction of volatile and precursor compounds from impacted soils. When coupled with closed-loop vapor-recovery systems capable of handling high contaminant loading, these integrated treatment platforms provide a promising pathway for managing PFAS-impacted source areas where conventional remedies alone may require decades of operation. Ongoing pilot and full-scale deployments continue to refine the role of thermal technologies as a critical component of multi-technology PFAS remediation strategies.

Digital Twins and Intelligent Operations

The integration of physical remediation systems with intelligent operational decision-support tools represents another major evolution. GEO has deployed integrated digital-twin operational frameworks across full-scale thermal remediation projects, linking continuous monitoring, automated QA/QC, and predictive analytics into dynamic operational models. Distributed sensors capture temperature, pressure, vapor-flow, groundwater, and contaminant-recovery data in real time, while machine-learning models identify performance patterns and forecast heating progression or vapor-load changes. Early-warning alerts allow operators to resolve heater imbalance, hydraulic deviations, or vapor-system inefficiencies before field performance is affected, improving execution reliability and lifecycle cost predictability.

Case Study: Execution in Complex Environments

The benefits of combining advanced vapor capture with precise operational control are illustrated by a recent hybrid in-situ and ex-situ thermal remediation project executed within an active industrial facility in South Asia. Strict air-quality and operational-continuity requirements limited conventional remedial options. GEO deployed Thermal Conduction Heating with steam-range enhancement and high-efficiency vapor capture supported by non-disruptive drilling and real-time hydraulic management. Continuous monitoring of temperature and contaminant recovery generated transparent mass-balance data while enabling uninterrupted facility operations. The project ultimately achieved greater than 99 percent PAH mass removal, demonstrating the feasibility of integrated thermal remediation in complex industrial environments.

Global Impact and Future Outlook

The scalability of low-emission thermal remediation systems has driven rapid international growth, reflecting global demand for remediation solutions capable of managing high-concentration contaminant streams while minimizing secondary emissions and maintaining predictable project schedules. As environmental standards evolve and redevelopment pressures intensify worldwide, the remediation industry is moving steadily toward integrated treatment architectures that combine contaminant removal technologies, advanced vapor recovery, and real-time operational intelligence within coordinated environmental-management platforms. GEO's development—from early leadership in high-concentration vapor treatment to today's AI-enabled, low-emission remediation systems—illustrates the direction in which the global remediation industry is now moving. □

Geo's International Growth Through Low-Emission Thermal

In 2024–2025, Geo Remediation Company (GEO) expanded its operations across Singapore, China, Germany, North Africa, Australia, and Israel, supporting clients with high-concentration VOC, PAH, petroleum-sludge, and PFAS challenges.

GEO delivered multi-country feasibility studies, thermal design packages, and full-scale project support, particularly for sites requiring steam-range PFAS treatment and near-zero-emission vapor control. Adoption of the company's real-time information-management platform strengthened quality assurance, improved project predictability, and supported efficient deployment of thermal systems in diverse regulatory environments.

Growth was enabled by the firm's ability to execute complex remediation in low-permeability settings, manage high-load vapor streams, and provide transparent mass-balance reporting valued by industrial clients and regulators.

GEO's expanding portfolio, emerging-contaminant expertise, and consistent delivery of high-performance results position the company as a rapidly advancing provider in the global environmental-remediation market. Its scalable, low-emission thermal systems reflect a broader industry shift toward cleaner, data-rich approaches for some of the world's most persistent contaminants.

Real-Time Thermal Data Integration with Machine-Learning Operational Support

In 2025, GEO deployed a unified information-management platform that connects continuous thermal monitoring, operator inputs, automated QA/QC, and machine-learning analytics into a dynamic digital twin of each thermal site.

The system captures temperature, pressure, vapor-flow, groundwater, and NAPL-mass data from distributed sensors, while AI models interpret operator notes, identify performance patterns, and forecasts heating progression or vapor-load changes. Early-warning alerts allow teams to resolve

issues such as heater imbalance, hydraulic deviations, or vapor-system inefficiency before they affect field performance.

The platform integrates with financial tools including QuickBooks and MS Project, enabling project managers to link physical processes with cost, schedule, and resource projections. Automated synthesis of vapor and condensate data produces near-real-time mass-balance updates, improving regulatory transparency and enabling faster, data-driven adjustments.

Deployment at domestic and international projects has reduced reporting time, standardized field documentation, and strengthened coordination between engineering and operations. The platform provides a scalable blueprint for digital transformation in thermal remediation, offering clients higher reliability, lower operational risk, and clearer insight into system performance.

EBJ Technology Merit Award: Low-Emission Thermal Remediation

Geo Remediation Company advanced low-emission thermal remediation in 2025 by integrating thermal conduction heating with its Cryogenic-Compression–Condensation (C3™) system, creating a closed-capture platform capable of managing high-strength VOC, PAH, NAPL, and PFAS vapor streams with near-zero atmospheric discharge. The system routinely achieves greater than 99% vapor-phase capture, providing an uncommon level of transparency and regulatory confidence in thermal remediation performance. By recovering contaminants as liquid condensate, C3 enables near-complete mass-balance accounting, improving design certainty and clarifying contaminant-mobilization pathways. Field applications demonstrated effective contaminant removal at temperatures below 100°C, reducing energy demand while maintaining stable vapor and hydraulic control in low-permeability and high-load conditions. The approach minimizes granular activated carbon usage, eliminates combustion-based controls, and simplifies permitting at air-sensitive sites.

ECC GROWS DISASTER RESPONSE & RECOVERY

Founded in 1985, **ECC** is an employee-owned company that delivers design-build, construction, environmental remediation, contingency and disaster recovery, energy, munitions, development, and fuels infrastructure solutions to the complex challenges facing our clients. ECC has performed more than $16 billion in revenue in 37 countries around the globe. ECC has 400 professionals located in 14 major offices throughout North America, Europe, Asia/Pacific, and Africa. ***Matthew Long is Program Manager*** and has been at ECC for 22 years.

EBJ: How would you describe ECC's evolution over the past five years?

ECC: Founded in 1985, ECC is an employee-owned company that provides a full range of services to support our clients' missions including environmental remediation, construction, contingency and disaster recovery, energy, munitions response, development, and fuels infrastructure solutions. We primarily serve our US Department of Defense (DOD) clients, as well as other international, Federal, state, and local agencies. We serve as a trusted partner, acting with vision and integrity to deliver exceptional results.

Throughout the last 5 years, ECC has steadily grown in size and capability, advancing nearly 88 places on Engineering News-Record's (ENR) Top Environmental Firms list to rank #50 last year. Our strategic positioning in the industry on key Federal contracts, combined with trusted client partnerships and an experienced workforce, enabled us to respond to emerging opportunities.

As a leader in environmental remediation, we remained at the forefront of tackling complex contaminants, such as Per- and Polyfluoroalkyl Substances (PFAS) and our reputation as a trusted contingency and disaster response contractor continued to strengthen as we successfully completed key projects throughout the US. ECC partnered with our clients to respond to nearly every major cleanup effort following natural disasters throughout the last 5 years, including responses to Hurricane Helene at Moody Air Force Base (AFB) and MacDill AFB, the Maui Wildfires in Lahaina and surrounding areas, and the Palisades and Eaton Fires throughout Los Angeles County.

EBJ: What inflection points most shaped the company's current profile?

ECC: Continued expansion of our disaster response services across multiple DOD clients significantly shaped our current profile, particularly when events involved initial cleanup and infrastructure stabilization, followed by longer-term reconstruction. Prime examples throughout the last 5 years include our South Airfield Military Construction Projects at Naval Air Weapons Station (NAWS) China Lake, where ECC provided award-winning, post-earthquake, long-term infrastructure recovery services. At Moody AFB and MacDill AFB, ECC responded with immediate post-hurricane infrastructure assessments and stabilization followed by longer-term repairs, renovations, and construction of facilities. These mission response and recovery programs provide ECC with the opportunity to assist our clients not only with time-critical contingency needs but with their larger mission.

EBJ: Which business lines or practice areas are currently driving the greatest share of growth?

ECC: Concentration and investment centered on our people and core business lines—construction and environmental remediation—have driven steady growth throughout our history. With the increased magnitude and scale of natural disasters over the last 5 to 10 years, our contingency and disaster response services have driven tremendous company growth as we provide post-event cleanup and management services.

EBJ: How has your client mix changed?

ECC: Though we do contract with international, state, local, and commercial entities, ECC has primarily served our

Federal clients since our founding in 1985, and that has not changed throughout our history.

EBJ: What internal capabilities does ECC invest in most heavily and why?

ECC: We value and invest in our people as our greatest asset. We have a strong, employee-first program dedicated to cultivating the skills and capabilities of our people while promoting team building, creativity, friendship, and collaboration. Facets of this program include leadership development, education and career advancement, health and wellness, life-work balance, safety training, and more. We believe our people set us apart and create the foundation for continued success.

EBJ: How does ECC prioritize which markets to pursue?

ECC: We prioritize markets through a formal process in alignment with our strategic plan, company mission, vision, and core values. Some factors we consider when prioritizing markets include client mission alignment, time-critical urgency, resource management, contractual fit and readiness, capability leverage, risk management, geographic reach, safety and compliance, and more. Regarding the contingency and disaster response market, we have a comprehensive response program in place at all times and a global network of resources ready to deploy at any time-critical need. This allows us to prioritize and respond to these missions immediately.

EBJ: How is the disaster response market evolving?

ECC: The disaster response market is becoming increasingly competitive as natural disasters, such as hurricanes and wildfires, grow more destructive and frequent, requiring federal involvement.

EBJ: What segments are growing fastest?

ECC: Federal markets are continuing to expand, providing new opportunities for growth for ECC and our employees. For example, ECC is at the forefront of managing emerging contaminants, such as PFAS. We are providing replacement services for aqueous film forming foam (AFFF) systems with approved alternatives; as well as cleaning up PFAS found in groundwater, soil, and other media of concern due to AFFF releases.

In addition, DOD in general continues to provide growth opportunities for ECC. The multiple contracts we hold allow us to provide new and existing services to new clients. For example, ECC is actively managing emerging contaminants, such as PFAS. We are providing replacement services for aqueous film forming foam (AFFF) systems with approved alternatives; as well as cleaning up PFAS found in groundwater, soil, and other media of concern due to AFFF releases. ECC continues to acquire new DOD clients, we were recently awarded an Indefinite Delivery/ Indefinite Quantity (IDIQ) contract with the US Coast Guard and we look forward to supporting that services throughout the ECC network.

EBJ: What led to developing AI-based burned vehicle detection?

ECC: Based on our experience with prior debris removal projects, we recognized the accuracy and operational impact that AI-based models can deliver. These models enable much faster, more scalable ground assessments over traditional manual field surveys, significantly improving efficiency during post-incident analysis.

EBJ: What were the biggest technical challenges in training the model?

ECC: The primary challenges were related to satellite imagery quality, including variations caused by weather conditions, cloud cover, image resolution, and differences in satellite viewing geometry such as nadir angle. These factors directly affected model performance and required careful handling during training.

EBJ: Could this technology be adapted to other asset classes?

ECC: Yes, this technology can be adapted to other asset classes such as tanks, structures, drums, and pipelines. The core approach remains the same, with the model being fine-tuned using labeled data specific to each asset type. With sufficient training data and domain-specific annotations, the model can learn new visual patterns and reliably detect and classify different assets.

EBJ: Do you see this becoming a standard tool across disaster response?

ECC: Yes, this has strong potential to become a standard tool in disaster response. Recent advancements in AI and remote sensing have made it possible to rapidly analyze large volumes of imagery and other data sources. This enables faster situational awareness, improved decision-making, and more efficient allocation of resources during emergency and recovery operations. □

EBJ Award Technology Merit: Technology-Enabled Wildfire Debris Removal

ECC developed and deployed advanced, AI-driven technologies that transformed delivery of the $1.7 billion USACE Los Angeles County Palisades and Eaton Fires Debris Removal Project. ECC created artificial intelligence-powered computer vision applications to detect burned vehicles, significantly improving safety, hazard identification, logistics, and removal planning. Built through rigorous data collection, annotation, iterative training, and validation, the models accurately identified thousands of vehicles, enabling optimized scheduling and accelerated operations. In parallel, ECC integrated multiple advanced commercial and proprietary technologies—including Survey123, automated data management systems, GIS, Smartsheet, ECC-developed mobile applications (Summit and Service Ticket), and Microsoft Power BI—into a unified, real-time data platform. The system tracked personnel, training and activities for more than 4,000 workers and subcontractors, debris management, GPS-based trucking logistics, property status, reporting, and community engagement. These capabilities enabled adaptive scheduling, resource optimization, and safer operations. ECC cleared 2.6 million tons of debris across 10,384 parcels in just six months—half the original schedule—achieving the fastest large-scale wildfire cleanup in history.

WESTON JV COMPLETES RAPID RESPONSE TO DISASTER STRICKEN WATER INFRASTRUCTURE

Design-build process add resilience for future events

Weston Solutions is a U.S.-based, 100% employee-owned environmental and infrastructure services firm committed to safety and delivering value for government and industrial clients. Founded by Roy F. Weston in 1957, the firm is recognized as a pioneer environmental engineering firm and continues today, ranked #25 on EBJ's list of top U.S. environmental consulting & firms.

Rinku Shah is a Principal Project Manager at Weston Solutions in the Federal Project Management organization and a certified PMP®. He brings 20+ years of experience leading complex federal projects spanning environmental remediation, construction, and emergency/disaster response and has managed multidisciplinary efforts valued from roughly $10M to $50M+ for clients including USACE, the U.S. Navy, and the U.S. Air Force. Mr. Shah led fast-track delivery and oversight of the temporary pretreatment/turbidity reduction system at Bee Tree Reservoir to support the City of Asheville's drinking water operations.

EBJ: Remind us of the scale of the storm, how unexpected was it, and how monumental were the damages to infrastructure?

Weston Solutions: What made Hurricane Helene so devastating for Asheville was not just the scale of the damage, but how it impacted infrastructure. This storm had weakened by the time it reached North Carolina, so there was no expectation that a city hundreds of miles inland would experience this magnitude of catastrophic impacts. Asheville was hit with record-breaking rainfall that overwhelmed rivers, destabilized steep mountain terrain, and caused widespread flooding and landslides across Buncombe County.

In 24 hours, the storm dumped 13 inches of rain on Asheville and up to 31 inches on the surrounding area. The storm produced average winds of 40 to 50 miles per hour (mph) and gusts up to 90 mph, spawning 8 tornadoes, breaking power poles in half, uprooting trees, and tearing buildings apart. The storm caused landslides; washed out roads, bridges, water supply pipes, and sewers; caused widespread power outages and loss of communications; and blocked transportation roadways with debris.

The dam at the Bee Tree Reservoir was saved by partially opening the spillway stage gates to relieve the high water levels and pressure. The storm caused 108 fatalities, making it the deadliest storm in North Carolina's history.

One of the most serious impacts was the shutdown of Asheville's water treatment plants (WTPs) and damage to the water distribution system. The William DeBruhl WTP at Bee Tree Reservoir is a critical source of drinking water for the city. Mudslides driven by the storm runoff sent enormous volumes of sediment into the reservoir, turning the normally clear blue water into a muddy orange mess.

The solids in the water increased to over 500 nephelometric turbidity units (NTUs), well beyond the 5 NTU treatment capacity of the WTP. This WTP remained offline until the turbidity reduction system (TRS) was installed and operating to reduce turbidity levels. Roughly 156,000 residents were left without potable water for more than seven weeks. That level of disruption was unprecedented for Asheville and ranks among the longest municipal water outages tied to a hurricane in recent U.S. history.

Ultimately, Hurricane Helene changed how people think about risk in Asheville and how the city prepares for and manages storm response. It showed that storms can generate unexpected conditions that cause widespread infrastructure to multiple utilities. Mountainous communities are in-

EBJ Award: Project Merit: Rapid Response Mobile Turbidity Reduction System

When Tropical Storm Helene struck Asheville, N.C. on September 27, 2024, it delivered 14 inches of rain and caused severe infrastructure damage. Mudslides sent debris into Bee Tree Reservoir, elevating turbidity beyond the capacity of the City's three water plants. This severely impacted the water supply and left 156,000 residents without potable water for seven weeks. To address the water quality issue, the U.S. Army Corps of Engineers (USACE) Wilmington District partnered with Weston Solutions, Inc. through the Bering-Weston Joint Venture (BWJV), to design and install a mobile turbidity reduction system (TRS). Within 48 hours of award, BWJV mobilized a rapid-response team to restore water quality. Construction was completed by January 12, 2025, and the system was operational by January 16, 2025. The system integrated dissolved air flotation units, sand and bag filters, filter presses, and advanced conveyance systems. The team focused on commissioning, performance testing, and seamless integration with existing infrastructure, ensuring reliability and regulatory compliance. This innovation reduced turbidity to 1.5 nephelometric turbidity units (NTU), safeguarding public health and achieving regulatory compliance. The TRS processed up to 5 million gallons per day. USACE rated the project "Very Good," citing BWJV's ability to exceed requirements under a compressed schedule.

Tropical Storm Helene caused landslides; washed out roads, bridges, water supply pipes, and sewers; caused widespread power outages and loss of communications; and blocked transportation roadways with debris.

creasingly vulnerable to extreme weather events that cause widespread destruction. The storm exposed critical infrastructure vulnerabilities and underscored the urgent need to rethink resilience and preparedness for communities like Asheville.

EBJ: Tell us about your existing contract with the Army Corps of Engineers and your joint venture with Bering and what they specialize in. Is it specifically about emergency response, or does it have a broader mandate?

Weston Solutions: Weston and the **Bering-Weston JV LLC** (BWJV) have contracts that allow the U.S. Army Corps of Engineers (USACE) to access our resources for immediate disaster response. In this case, USACE provided the Federal Emergency Management Agency (FEMA) with access to us to support this large-scale emergency response work to the City of Asheville and local residents.

Weston has a long-standing relationship with USACE that extends well beyond disaster response and is grounded in decades of delivering hundreds of mission-critical infrastructure projects for federal clients and local stakeholders.

Across multiple USACE districts in the United States, Europe, and the Pacific, Weston supports a wide range of programs that include water and wastewater infrastructure, energy and power resilience, environmental remediation and permitting, secure construction, multimedia compliance, and large-scale design-build and design-bid-build modernization efforts. Emergency response is an important capability, but it represents only one element of a broader portfolio focused on delivering reliable, low-risk solutions for both time-critical and long-term federal projects.

That relationship is further strengthened through BWJV, a Small Business Administration (SBA)-certified 8(a) Small Disadvantaged Business designed and built to deliver high-end design and construction services, including emergency response and time-critical delivery. BWJV combines Weston's engineering, technical, and program management expertise with the construction capabilities, federal contracting infrastructure, and Alaska Native Corporation backing of **Bering Straits Native Corporation**. Built on successful prime and subcontractor collaboration, including secure construction, BWJV provides federal clients with high confidence of successful and timely performance in secure and complex environments while enabling streamlined procurement and flexible delivery.

While BWJV is well recognized for rapid mobilization during emergency response efforts, including post-disaster infrastructure repair, that capability represents only part of its capacity. BWJV also delivers non-emergency projects such as natural gas utility, mechanical, and electrical infrastructure upgrades; water and wastewater system rehabilitation; energy and fueling systems; secure facility construction and renovation; and electric vehicle charging infrastructure.

Emergency response is a core strength, but it sits within a broader mission to provide quality, high-end construction and infrastructure solutions that support federal readiness, resilience, and long-term operational needs.

EBJ: How much time did you have to mobilize and how challenging was it to obtain the hardware to integrate into the existing systems?

Weston Solutions: We mobilized to the site in 48 hours, and we completed the initial safety, staffing, and construction plans during this period. The communication and trust built in our decades-long USACE relationship allow us to work quickly under the most strenuous circumstances. We completed the initial site preparation work in 7 days working 24 hours per day. We installed generators as soon as the site was prepared to provide power for the TRS construction and operation. On-site engineers designed the TRS while overseeing the construction in fast-track simultaneous design-build mode.

Our first challenge was the site access and limited space for construction. We needed to repair roads to access the site and sequence deliveries when space was ready to receive and install equipment. The available space was further limited by the surrounding steep terrain, which required creative design and construction to fit equipment at locations needed for the treatment sequence.

Local labor, material, and equipment supply were constrained by the large-scale recovery effort occurring across the region. We reached outside the region for the treatment equipment, large-diameter piping, valves and fittings, instruments and controls, and construction labor and equipment.

The project demanded complex logistics and supply chain coordination, bringing together 20 suppliers and 9 on-site construction subcontractors operating 24/7. This was supported by daily coordination meetings with contractors, suppliers, and state, local, and federal stakeholders.

Removing the solids required a complex treatment process that combined chemical addition with dissolved air flotation units to remove the majority of turbidity, followed by sand and bag filters for final polishing before the treated water was supplied to the existing WTP. We used chemicals approved for potable water treatment to expedite the permitting process. The chemical additions were tested on-site and continuously monitored due to changing water conditions.

Work was conducted during cold winter conditions, with operations halted on two separate days due to severe winter storms and high winds. We prepared the equipment and operations for each major storm and monitored conditions to make sure all workers and facilities were safe during storms and regular construction operations. We had full-time safety managers on-site continuously during construction and operations.

The TRS was constructed in just 60 days, followed by 11 months of continuous operation to ensure uninterrupted service at the WTP. The project achieved more than 35,000 safe work hours with no injuries or serious accidents. This fast-tracked, high-performance outcome was made possible by a highly motivated team working around the clock, delivering quality work through constant communication and

close collaboration among suppliers, contractors, city staff, federal personnel, and state regulators. The result was an extraordinary effort completed both quickly and safely.

EBJ: We assume the DoD has modular drinking water systems for mission-critical operations or combat readiness. Is that correct and are any of those resources deployable for applications such as this?

Weston Solutions: Yes, the U.S. Department of Defense (DoD) maintains modular, mobile deployable drinking water systems designed to support mission-critical operations, combat readiness, and contingency environments; however, the system required for this project is bigger than most of DoD's modular drinking water systems. The TRS provided 5 million gallons per day (MGD) of water treatment capacity in continuous operation for 11 months. Equipment delivery required 25 semi-trucks plus over 100 additional deliveries for materials and smaller items.

DoD modular drinking water systems like reverse osmosis water purification units and tactical water purification systems are built to be rapidly deployed and can produce potable water from a wide range of source conditions. In some cases, those assets are used for disaster response and humanitarian missions in coordination with civilian authorities. However, those systems are primarily designed for short-term, stand-alone use and to support relatively limited populations, such as deployed units or temporary installations.

The TRS was installed at the William DeBruhl WTP to provide the high-volume water supply needed to restore drinking water service and to integrate seamlessly with the existing municipal treatment and distribution infrastructure. This is beyond the size and scope of most DoD modular mobile water treatment systems.

The TRS provided a unique modular engineered treatment solution that could be integrated into the city's existing system, meet regulatory requirements, and operate reliably at the scale needed to serve the community.

EBJ: Urgent restoration of drinking water was clearly a primary objective, but were there any measures for long-term resilience?

Weston Solutions: Restoring drinking water quickly was the immediate priority, but the response also incorporated measures aimed at longer-term resilience. While the TRS was deployed as an emergency solution, it was deliberately engineered to stabilize the City of Asheville's existing treatment operations and to add a layer of pretreatment capacity that did not previously exist at Bee Tree Reservoir. The system was designed to handle extreme turbidity levels well beyond historical conditions, operate reliably for extended periods, and integrate seamlessly with the William DeBruhl WTP, helping protect the city against future high-sediment events rather than simply addressing a one-time failure.

In addition, the project generated valuable operational data and real-world performance benchmarks that can inform future infrastructure upgrades and watershed protection strategies. By demonstrating that modular pretreatment can be rapidly deployed, scaled, and operated with high reliability in adverse weather conditions and in a space-constrained environment, the response helped Asheville and its federal, state, and local partners better understand how to build redundancy and flexibility into critical water systems. In that sense, the work at Bee Tree was not just about restoring service after Hurricane Helene, but about strengthening the system's ability to withstand more frequent and severe storms in the future.

Based on this experience, Asheville is currently designing robust pretreatment facilities that can be constructed and operated over the long term to provide a more permanent and resilient water treatment system. These new facilities, when complete, will help Asheville respond to future events that cause widespread destruction and infrastructure damage. □

CLEAN HARBORS MAINTAINS LEADING POSITION IN THE GROWING, UNPREDICTABLE EMERGENCY RESPONSE MARKET

Clean Harbors (NYSE: CLH) is North America's leading provider of environmental and industrial services. Revenues for 2024 increased 9% to $5.89 billion, serving a diverse customer base in a number of industries, including chemical, manufacturing and refining, as well as numerous government agencies. Services include end-to-end hazardous waste management, emergency spill response, industrial cleaning and maintenance, and recycling services. Through its Safety-Kleen subsidiary, Clean Harbors is a leading provider of parts washers and environmental services to commercial, industrial and automotive customers, as well as North America's largest re-refiner and recycler of used oil. Founded in 1980 and based in Massachusetts, Clean Harbors operates in the United States, Canada, Mexico, Puerto Rico and India.

Eric W. Gerstenberg, Co-Chief Executive Officer. Mr. Gerstenberg was named Co-Chief Executive Officer and Co-President in March 2023, after serving for eight years as the Company's Chief Operating Officer. From 2010 to 2015 Mr. Gerstenberg held positions of increasing responsibility including President of the Environmental, Industrial & Field Services business, Vice President of Disposal Services and Executive Vice President, Environmental Services. In that role, he oversaw Field Services, Technical Services, Disposal Facilities, Transportation and Sales for the Environmental Group. Mr. Gerstenberg joined Clean Harbors in 1989, serving in a variety of positions including General Manager of the Natick, Baltimore, and Chicago facilities. He stepped away from the organization briefly in 1997, serving as Vice President of Operations for privately owned Pollution Control Industries before returning to Clean Harbors in 1999. Mr. Gerstenberg received a Bachelor of Science degree in Engineering from Syracuse University.

EBJ: I assume that Clean Harbors is one of the largest, if not clearly the largest, disaster response contractor in the USA. Please provide a sketch of the client base, and the typical contract mechanisms for what is what is undoubtedly an unpredictable service delivery schedule?

Eric Gerstenberg: We are the largest disaster response – or as we refer to it emergency response – providers in North America. In 2024, in addition to our planned or scheduled work, we completed more than 21,000 emergency response events ranging from small spills to large multi-million-dollar engagements. Our client base cuts across many industries as nearly every company can have an environmental ER. One of our most active verticals are utility customers who are often dealing with flooded underground vaults and manholes or downed transformers or power station issues. Think of every time a chemical of any kind is unintentionally released into the environment, whether that is a fuel spill from a traffic accident or a truck rollover or a leaking boat on a waterway or a train derailment or a punctured drum in a warehouse.

In terms of contract mechanisms, it runs the full gambit of 1) a standby emergency response agreement (SERA) where a customer may not need us for a year but calls us when an event happens; 2) an ongoing contract with a customer like a retail chain where we respond to their stores as needed; 3) a fixed team that is assigned on a regular basis like a utility customer where there are constant response needs daily; or 4) partnering with an larger entity like the Coast Guard or a transportation authority to respond to spills on water or at an airport in those examples.

EBJ: How do you manage your assets across your national footprint to maximize the speed of your response? Then please characterize equipment assets, and human resource assets and how these are both shared across different platforms across the business.

Gerstenberg: We have a network of nearly 100 dedicated Field Services/emergency response branch offices that are strategically located across all the major metropolitan markets. We plan to expand that network by several dozen more locations this year as we grow into even more secondary markets. The types of equipment in each region is often prioritized to best address the needs of local customers, whether that's waterborne vessels or vacuum trucks or railway equipment or other more specialized vehicles. We also maintain a national strike team that is made up of individuals with deep experience in large-scale responses – with some dating back to events like Ground Zero, the anthrax attacks in NYC, the Deepwater Horizon, Hurricanes Katrina and Sandy, the avian flu outbreak of 2015 or more recently, Covid decontamination work.

Those Field Services are just one of five different branch types in the company that address a variety of customer needs from hazardous waste disposal to industrial cleaning to waste oil collection. We can also deploy disaster response personnel and equipment from many of our other branch locations that number more than 800 in total. As you mentioned, it's all about speed of response time, having the right experience and having the right people and equipment in the right place. With our extensive geographic footprint, we check all of those boxes.

EBJ: How do you collaborate with federal agencies and local governments and port districts and other stake holders that also possess human and capital assets for disaster response, and what determines jurisdiction or leadership on the multiple phases of a project in response and recovery?

Gerstenberg: We often collaborate with all types of state, provincial and federal agencies on disaster response. Depending on the size, scale and environmental threat presented, those agencies are typically a critical asset to marshalling the response needed from us and other vendors, as well as helping clear any regulatory hurdles needed. Generally, the responsible party is liable for any chemical release into the environment whether that is a homeowner

whose oil tank floods their basement or a company whose train derails or truck rolls over or a business who contaminates an area. Federal or state agencies and regulators are critical to making sure that the party at fault responds appropriately.

However, there are times when those agencies need to step in when the responsible party or a company doesn't have the wherewithal to support the cleanup. Or it may be a situation where it is a widespread event like a hurricane or the California wildfires where Mother Nature has impacted so many locations at once. In those instances, we may be working directly with the EPA or other agency as a part of a response. For example, in the case of the 2015 avian flu, we were working directly with the U.S. FDA to help protect the U.S. poultry industry.

EBJ: Presumably spills are the most frequent incident but over the last decade and more we have seen a greater incidence of floods fire and extreme weather events. How substantially has this changed for CH as a response contractor, and how have you had to change your preparedness protocols in response to these macro changes?

Gerstenberg: There is no doubt that we all see the news that there are more superstorms and 100-year weather events than ever. Those can be floods or hurricanes or tornadoes or wildfires or deep freezes. This severe weather can impact everything from homes to industrial plants to transportation assets, as well as things like retailers where it can hit them at the store level or within their warehouses and distribution centers. Our ER business has evolved over the past decade in relation to that as we have introduced a Total Storm Response offering to assist in these various weather-related scenarios.

But regardless of what is causing the spill or event – whether that is weather or human error – the fundamentals of the response don't radically change. Ultimately it is about speed of your response, having the right equipment and trained personnel, and minimizing the environmental impact of what is released. For example, in any response situation you have to prioritize keeping pollutants away from waterways, particularly when those impact the local water table and drinking water sources.

EBJ: From past analysis, I remember emergency response was reported in annual reports and even quarterly summaries, but it appears not to be a line item in the current revenue reported as a public company. What division does it lie in and how do you approach guidance on estimating growth or revenue potential of that business, and even evaluate acquisition candidates?

Gerstenberg: Our Field Services business is part of our larger Environmental Services reporting segment. While our reporting segments have changed over the years as the company has grown and evolved, within our S.E.C. filings, we still do break out the revenues generated by Field Services. In 2024, our Field Services business achieved $895 million of revenue for the year. As it relates to guidance, we know that emergency responses – like the 21,000 we responded to in 2024 – are going to happen on a regular basis and factor our guidance around that assumption. What we do include in our guidance are the very large responses like a Deepwater Horizon or East Palestine train derailment as those may or may not happen in any individual year. Those large ERs are always upside to our guidance and the estimates that Wall Street maintains on the company. □

Field Services are just one of five branch types in the company that address a variety of customer needs from hazardous waste disposal to industrial cleaning to waste oil collection....We can deploy disaster response personnel and equipment from many of our more than 800 branch locations.

Clean Harbors 2024 Acquisition of HEPACO Broadens Field Services and Emergency Response Capabilities

In March 2024, **Clean Harbors Inc.** (NYSE: CLH) announced the completion of its acquisition of **HEPACO**, a leading environmental provider of field and emergency response services in the Eastern United States. Clean Harbors purchased HEPACO from Gryphon Investors for $400 million in cash. The acquisition was financed through proceeds from a recently completed $500 million expansion of the company's Term Loan facility. On an adjusted basis, HEPACO generated full-year 2023 EBITDA of $36 million on $270 million of revenue. Clean Harbors expected the acquisition to generate cost synergies of approximately $20 million after the first full year of operations, which equates to a post-synergy acquisition multiple of 7.1 times.

Eric Gerstenberg, Co-Chief Executive Officer of Clean Harbors, said at the time, "HEPACO is an ideal cultural fit with our existing Field Services business, and we are confident that this will be a highly synergistic deal with strong margin improvement potential. We expect to achieve our targeted cost synergies in areas such as subcontracting, branch network, asset rentals, transportation and procurement." Headquartered in Charlotte, North Carolina, HEPACO has approximately 1,000 employees and 900 vehicles at 40 regional locations in 17 states. Its primary offerings to its more than 2,000 customers include field services, environmental remediation and emergency response services. In addition to regional operations in those 17 states, HEPACO's National Operations center provides 24-hour coverage across the continental U.S. through a network of contractors. □

EBI ENVIRONMENTAL BUSINESS INTERNATIONAL INC.

2025 EBJ LIFETIME ACHIEVEMENT AWARDS

As part of our annual Business Achievement Awards, Environmental Business Journal honors five executives for their lifelong service to the environmental industry.

- Jan Walstrom, former Executive Vice President (retired), Jacobs
- Michael McKibben, Senior Vice President, Director of Environment, U.S., WSP
- Gale Hoffnagle, Senior Vice President & Technical Director, TRC Environmental
- Al Spiers, Founder & Chief Executive Officer, 2020 Environmental Group
- Michael Gialketsis, former President & CEO (retired), Rincon Consultants

With this award, we express to the 2026 class of EBJ Lifetime Achievement Award winners Jan Walstrom, Mike McKibben, Gale Hoffnagle, Al Spiers, Dan Johnson and Mike Gialketsis our profound admiration and heartfelt gratitude for everything they have done for the environment and the environmental industry. When we look back and reflect on the progress we have made in air qulaity, water quality, cleanup, natrual resource protection and sustainabillity, we recognize our EBJ Lifetime Achievement Award winners for the services they rendered not just to their company and industry, but to their community and the planet. We honor them for their vision, dedication, persistence, generosity to colleagues, and love of the environment, and we thank them for inspiring a new generation of environmental industry leaders.

JAN WALSTROM

EXECUTIVE VICE PRESIDENT (RETIRED)

JACOBS

EBJ Lifetime Achievement Award, 2025

Until her recent retirement, Jan Walstrom was Executive Vice President, Sustainability & Enterprise Risk Management at Jacobs. She was responsible for leading the development and implementation of the company's go-to-market and corporate sustainability strategy. Jan also led the firm's Enterprise Risk Management function, driving a proactive culture of risk awareness and effective mitigation across the company's operating units and corporate functions, including direct engagement with the Jacobs Board's Sustainability & Risk Committee. Jan was with Jacobs (formerly CH2M) for over 30 years, serving in multiple leadership positions, including a seat on CH2M's Board of Directors. Her experience encompasses work with major government and commercial clients throughout the world. Jan is a long-standing member of the Assn. for Project Management and Project Management Institute, and a University of Tulsa, Department of Biological Sciences, Alumni Board member. Jan graduated with honors from the University of Tulsa, with a bachelor's degree in organismic biology.

In this edition, Jan Walstrom, former Executive VP at Jacobs, reflects on her life and career in the environmental industry. Future editions of EBJ will feature interviews with our other 2025 Lifetime Achievement Award winners.

Barrington High School Volleyball Team, 1976. Jan spiking. Finished 2nd in State in Jan's Sophomore year, 3rd in Junior year and made State quarterfinals in Senior year.

EBJ: Can you tell us a little about how you grew up and how that may have influenced the path you chose?

Jan Walstrom: I grew up in the northwest suburbs of Chicago as the youngest of two children, with a brother six and a half years older than me. Sports were central to our family life—my father had been a semi-pro baseball player with the Chicago Cubs—and my parents joined a modest country club so we could learn golf and swimming. Golf became our family's go-to activity, and I fell in love with both golf and swimming by about age four. I spent much of my childhood trying to keep up with my older brother, whether on the driveway basketball court or in spirited games inside the house. That constant competition taught me perseverance, creativity and resilience, especially how to adapt when the odds were stacked against me.

While individual sports shaped my early years, team sports became central in high school. I lettered in four varsity sports—field hockey, volleyball, basketball and softball—and competed at the Illinois State Championships. Recruited to play volleyball and softball in college, I chose the University of Tulsa on a full academic scholarship. After one year of collegiate volleyball, including a knee injury, the demands of my biology program led me to prioritize academics.

EBJ: What inspired your passion for biology and science? Who encouraged or fostered that interest?

Walstrom: My grandfathers were huge influencers in my life, and the two combined provided me with a profound gift to build on in my career. My maternal grandfather was an entrepreneur, innovator and very successful small business owner in the manufacturing industry. He was also an avid sports enthusiast. He spent loads of one-on-one time with me taking me to par-three golf courses, the bowling alley or just sitting in the stands of a little league game. We would talk about sports and the world in general: how business shapes our nation, communities, family dynamics, the world economy, and how what we learn about ourselves by playing sports helps to form our philosophy about life and business.

My paternal grandfather was a retired meteorologist with the U.S. Weather Service. He and my grandmother retired to the Upper Peninsula of Michigan, living in a small house that bordered a 50-foot cliff to Lake Superior. He was an avid naturalist and ham radio operator and maintained two active weather stations on his property, taking detailed measurements twice a day every day they lived there. He was curious about everything in the natural world and loved taking my brother and me for walks in the woods, fishing in Portage Entry, and hiking on the Keweenaw Peninsula.

EBJ: How did school and college lay the groundwork for your career in the environmental industry, including your first steps and roles prior to joining Jacobs?

Walstrom: I entered college knowing I wanted to major in biology, with a focus on zoology, assuming I would pursue a PhD and become a university professor. A required botany course—non-vascular plants—unexpectedly changed that path. I became fascinated by fungi, lichens, slime molds and algae, particularly dinoflagellates, which blur the line between plant and protozoan life. My undergraduate thesis on seasonal algal variation led me to one of the world's leading phycologists, and I was accepted directly into the PhD program in botany at the University of Oklahoma under a National Science Foundation grant. After two

productive years, however, I became increasingly disillusioned with academic culture and stepped away to focus on my wellbeing.

That decision led me into the environmental industry. I returned to Oklahoma Water Resources Board (where I had worked as a summer intern before starting graduate school) just as this state regulatory agency was managing work at Tar Creek, one of the nation's earliest Superfund sites. When the project manager left, I was unexpectedly asked to step into the role. As a biologist in my mid-20s, I became the State's day-to-day lead on major remedial design and construction efforts, working closely with engineers, contractors, regulators and community members. It was a defining moment in my career.

Jacobs' Global Environmental Solutions Leadership Team, 2018-2019

That experience led to my first engineering and construction role with Black & Veatch, supporting the Environmental Protection Agency's Remedial Environmental Management Phase IV (REM IV) Superfund contract. In 1992, I joined CH2M HILL, where I spent 25 years leading complex remediation programs, growing the environmental business and serving in a variety of senior leadership roles, including contributing to the company's transformation and integration with Jacobs. I also served as an employee director on CH2M's Board from 2015 until the acquisition.

EBJ: You've worked on many complex, large-scale remediation projects, including the $10-billion Rocky Flats Closure Project and the London 2012 Olympics and Paralympics contract involving one of Europe's largest ever environmental cleanups. Would you say managing large-scale remediation and restoration projects became something of a hallmark of your career?

Walstrom: Yes, definitely. Those two programs led directly to my appointment to establish CH2M's Program Management Center of Excellence and to develop and implement the company's Program Management Framework. This framework underpins the strategy, principles and processes integral to Jacobs' major projects and programs. From a personal and career development perspective, being afforded the opportunity to be part of leadership teams pursuing, winning and delivering major projects and programs significantly shaped my growth as a leader. It also opened up the door to senior and executive leadership opportunities across all facets of the company's business in the latter years of my career.

EBJ: What's the key to successfully managing such vast projects?

Walstrom: PEOPLE, PEOPLE, PEOPLE! — both on the client side and within our delivery teams, in addition to the leadership and management competency, capability and commitment of everyone throughout the organization. These leaders must share a common vision of what success looks and feels like. They must share a common set of values,

Jan Walstrom and former Jacobs colleague at the 2022 London Olympics legacy event

World Environment Centre, Gold Medal Award for sustainability transformation, 2023

maintain those values through thick and thin, and hold every person to account with zero exceptions. Of course, success also requires an endorsed, comprehensive solution to the challenge at hand; agreed-upon governance and project delivery processes; and robust tools, technologies and systems to deliver the solution and measure risk and performance. But without the selfless, dedicated and committed group of people who lead, manage, coach and deliver collaboratively and inclusively to optimize shared vision and outcomes, no complex project or program can succeed.

EBJ: What's the most important thing you have learned about leading large teams?

Walstrom: If you build a diverse and inclusive team who shares a common vision and values, believes in interdependence, trusts each other to do the right thing, and leverages everyone's strengths, there is absolutely nothing that you can't accomplish. Your job as a leader is to create an environment where team members can learn, grow, challenge each other and thrive.

EBJ: Looking back, which projects are you proudest of?

Walstrom: The successful closure of Rocky Flats tops the list. Being part of a leadership team that accomplished something of this magnitude and significance—once thought impossible—was a life-changing experience for me and many others. We transformed people's lives and careers and redefined what it meant to involve and engage with regulators, the community, and local, state and federal officials across scores of agencies. Together, we enabled the transformation of a former nuclear weapons facility into the thriving ecosystem now protected as the Rocky Flats National Wildlife Refuge.

Being entrusted to lead the transition and integration of thousands of environmental practitioners across CH2M's global organization to form Jacobs' environmental business is another standout achievement. At CH2M, we were a well-known and formidable competitor in the environmental industry, and our integration into Jacobs marked our entry into a much larger, publicly traded global organization. During this transition, our environmental leadership team was instrumental in supporting thousands of practitioners, ensuring continuity for our people and delivering outstanding service to clients. Together with our Jacobs colleagues, we built a strong environmental business within Jacobs—one that clearly demonstrated the strategic value of world-class environmental insights, competency and capability in driving year-over-year profitable growth across Jacobs' diverse global business.

EBJ: How would you describe your leadership style?

Walstrom: I strive to be a collaborative, inclusive and inspiring leader who gives team members the opportunity to stretch—both individually and collectively—to dream big and achieve outcomes many once thought impossible. My role as a leader is to create an environment that enables each individual, and the team as a whole, to learn, grow, thrive, and maximize their contributions.

EBJ: What does inclusion mean to you?

Walstrom: Inclusion means being open to the insights, engagement and contributions of anyone with the curiosity and interest to participate in a shared endeavor. The successful evolution and growth of the environmental industry owe much to the value it has placed on inclusion. The environmental challenges we defined and addressed in the 1970s are vastly different from those in the 21st century. To meet these increasingly complex and intractable challenges, our industry has embraced contributions from practitioners across an extraordinary range of disciplines —including engineering, science, technology, business, finance, procurement, trades and construction, law and the liberal arts—working together to deliver solutions that benefit people, communities, businesses and our planet.

EBJ: After serving as Global Environmental Market Director for many years you became Senior Vice President of Jacobs' Office of Global Climate Response & ESG in 2021 and ultimately Executive Vice President for Sustainability and Enterprise Risk Management prior to your retirement at the end of September 2025. What do you regard as your biggest accomplishments in your final roles with Jacobs?

Walstrom: Those roles focused on embedding sustainability and risk management into the fabric of the Jacobs business, from day-to-day pursuit and delivery of client projects to the management and measurement of our markets, business operations and corporate functions, as well as board governance and engagement with investors and the broader financial community. As a result, our approximately 43,000 colleagues worldwide, along with company leadership and the Board, approach, discuss and execute sales, delivery and business activities in a fundamentally different and more integrated way in 2026 with respect to sustainability and risk management.

EBJ: What are the biggest breakthroughs you've seen in the environmental industry over the years?

Walstrom: Beyond the sheer number and impact of engineering, scientific and technological breakthroughs since the 1980s, one of the most significant shifts has been the growing recognition of the profound impact humans have had—and continue to have—on the natural environment.

EBJ: What are the biggest challenges and opportunities that lie ahead for the environmental industry?

Walstrom: Our generation of leaders, and those that follow, must continue to champion the reimagining and reengineering of how we interact with both the natural and built environments, how we evolve our food systems, and how we produce and distribute energy. The challenges ahead are immense, but so too were the environmental challenges the world faced before the emergence of this industry. Just take a moment to think how far we've come in 40-50 years. Our industry is uniquely positioned at the center of these efforts, and our professionals are well accustomed to solving complex challenges through integrated, inclusive and innovative approaches. I'm excited to see how the journey ahead plays out!

Jan receiving Jacobs' award for Transformational Partnership at the 2024 Sustainability Delivery Awards, image courtesy of Environment Analyst

EBJ: How would you describe the experience of working for CH2M/Jacobs all these years?

Walstrom: The culture and values of the organization have always been fundamental—an unquestionable truth throughout my time first engaging with and later becoming part of the CH2M/Jacobs family. An intense focus on our clients' businesses and their evolving needs permeates the organization at every level. Technological innovation and the commitment to delivering the best possible solutions to our clients' challenges, big or small, are shared priorities enabled through the integration of diverse, global talent across all facets of the organization.

EBJ: We all need help along the way. Did you have mentors or supporters who helped you succeed?

Walstrom: I would never have even gotten my start in the environmental industry without the support of many individuals in key leadership or management positions who were willing to take a chance on me. As I progressed in my career, several executives entrusted me with critical business outcomes, believing in my ability and potential far more than I believed in myself. In a similar vein, several colleagues placed their trust in me by committing their growth, development and careers to these shared endeavors, while also serving as trusted confidantes, supporters and mentors. Finally, I would be remiss if I did not acknowledge the tireless and selfless contributions of my executive coach, Neil Sendelbach, whose guidance over the past 20 years profoundly shaped my growth as a person, executive and leader.

Dinner with husband, Laird Ellis, at a favorite restaurant, what they look forward at the end of every week, 2022

EBJ: You have given generously to the environmental industry. What gifts have you received in return?

Walstrom: This industry has shaped nearly every aspect of my adult life. I met my husband because of the REM IV program and have built lifelong friendships with colleagues who have become an extended part of my family. I approach my daily activities with a health, safety and wellness mindset developed through the cultures of the companies I worked for and the colleagues I worked with. This industry embraced a young, curious biologist and offered a world of opportunity to explore. The gifts and opportunities have been too numerous to count, and each has been challenging, humbling and a true privilege to be a part of.

EBJ: What words of advice do you have for someone just getting started in the environmental industry?

Walstrom: Make the time to know yourself: your values, strengths, interests and your truly 'love to dos.' Stay curious. Be willing to challenge yourself beyond your comfort zone and be willing to lend a hand (ear or shoulder) to others, knowing you will inevitably gain more than you expect. Understand that you are playing an *infinite game*, one in which the only score that matters is whether you are better today than you were yesterday, each and every day. Above all, stay true to yourself, always. The great Maya Angelou had a wonderful saying: "People will forget what you said, people will forget what you did, but people will never forget how you made them feel." She's right!

EBJ: Do you have hobbies or special interests outside of work? What's all this about 6 a.m. swims!

Walstrom: I am a self-admitted foodie and oenophile, and I look forward to spending more time exploring recipes, cuisines and wines from around the world. Back in my graduate school days, I became an avid nature photographer, and I'm excited to return to that passion as well. A typical day begins with a morning workout, ideally including a swim. I'm very much looking forward to including a swim in my routine, hopefully more than twice a week.

EBJ: Where does the spirit of nature speak most powerfully to you?

Walstrom: Very definitely in and around water. Whether it's one of the Great Lakes, the English Channel, a mountain stream or lake, a vast ocean, a roaring river, or even a swimming pool, this human being's mental, physical and spiritual wellness is positively impacted by being close to water.

Jan communing with nature, Oregon Coast, 2011

EBJ: What do you have planned for retirement?

Walstrom: My first priority is to recover fully from the foot surgery I had on my last day as a Jacobs employee, allowing me to become fully mobile again. This will enable me to spend more time with my very patient husband, as well as with good friends and family—enjoying life, travel, and the hobbies and activities we've postponed over the years. I'm also interested in exploring board and community service opportunities to continue making a positive impact in the world.

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