Energy and Environment

SOLUTIONS FOR THE REAL WORLD

Apply advanced data science and smart analytics to your complex energy and environmental challenges

Optimize your operations with tailored solutions

leidos.com/civil

leidos

Leidos by the numbers...

Corporate Rankings

#1 IN TOP 100 Washington Technology

FORTUNE 500

THE BEST EMPLOYERS FOR DIVERSITY Forbes 2021

2022 WORLD'S MOST ETHICAL COMPANIES WWW.ETHISPHERE.COM 5-TIME HONOREE

AMERICA'S MOST RESPONSIBLE COMPANIES 2021 Newsweek statista

THE BEST EMPLOYERS FOR VETERANS Forbes 2022

WASHINGTON BUSINESS JOURNAL #1 Largest Government Technology Contractors 2021

2022 DefenseNews TOP 100 DEFENSE COMPANIES

We Scored 100 On the 2022 DEI DISABILITY EQUALITY INDEX

BEST FOR VETS EMPLOYERS 2021 MILITARY TIMES

Our Energy and Environmental Business

45+ Years of environment, energy, and critical infrastructure experience

75 Professional geologists

75+ Office locations nationwide

206 Professional engineers

$208M Energy and Environment revenue/year

Our people and services - at a glance

Whether your project demands targeted energy applications, environmental services, or specialized systems, you can rely on Leidos. We deliver innovative, scientific, and cost-effective solutions that meet your mission objectives, keep you in compliance and on schedule, and safeguard your operations.

Safer, More Efficient, and More Secure

- **1 of every 4** Fortune 500® companies is a valued energy, environmental science, and engineering client.
- Leidos has received more than **75** National Safety Council awards for Occupational Excellence and Perfect Safety Record; annual recognition for the past 25 years.
- Clients include **9** federal agencies and all **5** U.S. military branches.
- Washington Technology named Leidos **number 1** in their top 100 government contractors in the federal market in 2020.

Project Success

- Leidos maintains an excellent record of completing projects within or ahead of schedule on more than 6,700 challenging environmental projects over the last 5 years.
- For the past 5 years, 82 percent of our final Contractor Performance Assessment Reporting System (CPARS) ratings have been "very good" or "exceptional," and Leidos has never received an "unsatisfactory" or "marginal" final CPAR rating.
- Leidos Civil Group currently manages and executes 4,315 concurrent projects worth a total of $24B, with individual projects up to $4.9B.

Our Experts Work for You

Out of 42,000 Leidos employees, nearly 1,800 are dedicated to energy, environmental science, and nuclear security. Our division brings expertise in many areas of support; from technology-based energy research to innovative applications; from environmental planning to site remediation; from complex data management to site modeling and decision-making. Our experts are uniquely equipped to support your important work.

Energy Technology: Our team of talented and diverse experts provides advanced research and technology development for clean, reliable, and affordable energy solutions at government sites and academic labs around the nation. Our energy, engineering, and technical specialists devote their expertise to developing actionable approaches to risk management, scientific discovery, and engineering solutions that consistently meet our clients' energy mission requirements.

Environmental: Leidos environmental engineers and scientists provide a complete capability to meet the needs of customers, including the Department of Defense (DoD), Department of Energy (DOE), National Aeronautics and Space Administration (NASA), and commercial clients. Our proven experience includes the following services:

- Environmental Planning – Accurately detect, quantify, and plan your site environment with the expertise of Leidos natural and cultural resource specialists. Using the latest assessment technology and monitoring strategies, we give you the data needed to make scientifically sound decisions and to prepare National Environmental Policy Act (NEPA) documents.

- Environmental Remediation – Reduce your liability with sustainable, long-term solutions that comply with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Resource Conservation and Recovery Act (RCRA). Leidos offers smart analytics to help you identify effective and affordable solutions to complex environmental challenges.
- Regulatory Compliance – Federal, state, and industry clients have relied on Leidos for more than 50 years to meet regulatory requirements and protect workers and public health. Over the past 10 years, Leidos has performed more than 2,000 multimedia environmental permitting studies, including emissions inventories, air monitoring, surface and ground water sampling, and monitoring at more than 1,200 defense and civil sites, installations, and military bases.

Nuclear Security Systems: We have the people, processes, technology, and innovative mindset to manage, operate, and optimize complex infrastructure for federal clients. Leidos has provided technical, management, and programmatic support to U.S. nuclear deterrent and nonproliferation/threat reduction missions since 1969.

Our nuclear technology and security professionals assist civilian and military stakeholders with nuclear deterrence, nonproliferation, and counterterrorism missions throughout the U.S. government.

Infrastructure Management and Operation: Our experience and skill set enable us to provide vital mission support for government and commercial customers. We manage logistics, operate, and maintain physical and IT infrastructures under a range of settings — from small campuses to massive federal reservations covering hundreds of square miles.

We provide site-wide infrastructure management and operation, including oversight of land and logistics, public works, information technology, fleet transportation, environmental sustainability and compliance, first responder services, and future project planning.

Our Advanced Degrees...

1.2K PhDs

40 % STEM Degrees

9.9K Master's Degrees

Capabilities

Our technical core competencies underpin the work we do for our customers every day. These competencies define the areas in which technical excellence is critical, not only for our business, but in the work we do daily to help customers achieve important missions on the frontlines of their industry.

Assess my energy structure 3
Make my laboratory run seamlessly 5
Plan for sustainability and climate change 7
Get my facility's air emissions under control 9
Keep us mission ready....11
Interpret my data when, where, and how I need it 13
Manage my environmental planning....15
Help me meet natural and cultural resource requirements 17
Characterize my site 19
Clean up my site....21
Remove munitions from my soil and water 23
Safeguard my water supply 25
Keep me in compliance with evolving regulations....27
Streamline my data....29
Unlock my data's full potential....31
Bridge the gap between business and IT infrastructure....33
Keep my public communications clear and effective 35

LEIDOS HAS PROVIDED $1.25 BILLION IN ENERGY EFFICIENCY SAVINGS TO INDUSTRY

Assess my energy structure

Optimize energy infrastructure for technical and financial performance and regulatory compliance.
Identify your best energy management and mitigation strategies.

At Leidos, we provide energy infrastructure management solutions that meet the full range of our clients' energy concerns, regardless of complexity. We focus on generating results that help our clients leverage future opportunities and support sustainable solutions. Leidos designs, implements, and manages effective energy programs that improve our clients' financial performance, competitive advantage, and market reputation.

Services include

- Energy system operations modeling and forecasting
- Energy sector assessments for technological and policy parametric analysis
- Operations emissions model development and enhancement
- Energy supply and demand modeling and analysis, including international energy
- Energy conversion technology, performance evaluation, and comparison
- Assessment of energy infrastructure changes, government regulations, and proposed energy/environmental policies
- Infrastructure cost and financial analysis.

Strong Decisions from Solid Data and Expert Viewpoints

For industrial, commercial, and residential sectors, Leidos energy experts develop energy supply and demand models to analyze power generation, liquid fuels conversion or supply, natural gas, and electricity transmission and distribution. They conduct energy efficiency and consumption investigations covering contemporary energy supply, conversion, and demand topics.

Our solutions are tailored to absorb the impact of new state and federal regulations on the electric utility industry, as well as impacts of plant cost reduction on the market penetration of nuclear power and other generation systems.

Meaningful Results

Leidos solves complex operations challenges by looking at the whole system. We offer an analysis of operational performance and emissions associated with energy supply, conversion, transmission, and distribution infrastructure. Our reviews include models of system characteristics, performance metric selection and analysis, and identification of low-cost/high-yield opportunities. We compile and use data and visualizations to assist you in decision-making for performance enhancements, emissions reduction goal-setting, and optimization of technologies.

25%

OF LEIDOS'

44000

EMPLOYEES

CONDUCT R&D TO UNLOCK SCIENTIFIC DISCOVERIES

Make my laboratory run seamlessly

Employ world-class scientists.

Deliver tangible results.

Because of our long history supporting the federal government, Leidos has built enduring customer relationships and truly understands federal missions. This understanding enhances our impact on the knowledge and technology products at the core of the federal laboratory.

Science and Technology

Leidos understands the life cycle of performing fundamental and applied research. We deliver interdisciplinary, collaborative research and development (R&D) to help evolve and expand emerging technologies for existing and next-generation laboratory and research systems. We do this to ensure mission goals are met, all while enhancing cyber resilience. Effectively combining science-based simulations with targeted experimental validation from laboratory to demonstration scales, accelerates the technology development process.

From this process, we devise and deliver cost-effective solutions that meet the goals pursued by our clients. Our results maximize the efficacy of client funding and technology transfer.

Proven Innovative Experience

Leidos provides skilled scientific and engineering personnel to support, implement, and conduct assigned basic, applied, and technology development-based research and demonstrations — whether for a comprehensive workforce or short term reach-back, as needed.

Services include

- Data science and analytics
- Materials engineering and manufacturing
- Energy conversion engineering
- Systems engineering and analysis
- Environmental and geological systems
- Implementation of artificial intelligence/machine learning
- Partnerships with allies and recognized experts.

To date under a laboratory research contract, Leidos employees contributed:

219 Technical Papers	36 Patent Applications
362 Technical Presentations	9 Awarded Patents

FEDERAL AGENCIES HAVE RELIED ON LEIDOS SINCE

1995

TO TRACK AND REPORT GREENHOUSE GAS EMISSIONS

Plan for sustainability and climate change

Use the best scientific data to understand climate change impacts.
Plan strategically to manage risks to mission and operations.

Our clients require proactive and cost effective sustainability and climate change planning integrated into existing policies and protocols. Leidos helps organizations focus on both climate change mitigation (greenhouse gas emission reductions) and adaptation (increasing resilience, identifying and addressing current and future hazards).

We respect legacy programs while managing risks to yield more climate-ready and resilient operations. Leidos aids many organizations with a range of strategic planning, climate change, and sustainability services, including energy solutions, smart grid, environmental engineering, climate risk management, and facilitation and communication support.

Decarbonizing the U.S. Economy One Business at a Time

Adequately responding to climate change requires deep decarbonization of American processes. At a time when response is critical, Leidos can bring the experience and technology needed to successfully manage businesses and industries in an uncertain carbon-constrained future.

Services include

- Assessing current carbon footprints, providing reduction and life cycle analysis
- Appraising and applying emerging IT to respond to demand and low carbon energy availability
- Developing flexible, adaptive energy distribution systems
- Evaluating data for carbon footprint reduction certification.

Bridge the Gap Between Analysis and Implementation

Proactive solutions allow our clients to lead, not just comply. We assisted in developing authoritative guidance documents for DoD: *Regional Sea Level Scenarios for Coastal Risk Management* (and accompanying database) and NAVFAC's *Installation Adaptation & Resilience Climate Change Planning Handbook*. Leidos-led teams assist agencies in developing dashboards and other tools to understand exposure and vulnerability to climate hazards, and help address impacts to their mission security and critical infrastructure.

Services include

- Sustainability planning and policy development
- Climate, severe weather, and wildfire modeling
- Climate change impact, vulnerability analysis, and adaptation planning to both mitigate and adapt
- Risk communication and training
- Greenhouse gas emissions inventories, tracking, reporting, and reduction planning.

Within a sustainability framework, Leidos uses an integrated approach to examine dynamic climate risk factors with multiple, interrelated systems. How? We leverage an unparalleled breadth of expertise across science, engineering, IT, and policy, to identify material risks that may affect an organization's short-term operations and long-term sustainability.

LEIDOS HAS MORE THAN 35 YEARS IN REDUCING FOSSIL FUEL EMISSIONS

Get my facility's air emissions under control

Employ sophisticated assessment services.
Comply with air quality requirements.

Air Quality Impact Assessment Services

Industrial facilities must comply with ever-changing air regulations. Our air quality team offers your company specialized air quality, engineering, meteorology, and monitoring and analysis support. Leidos addresses your compliance requirements with impact assessments, air pollution dispersion modeling and planning, air emission inventories, and permitting assistance.

Services include

- Facility siting
- Real-time sensors and monitoring
- Air pollution control systems design and construction
- Regulatory compliance evaluations
- Prevention of significant deterioration (PSD)
- Regulatory agency negotiation support
- Pollution prevention plans
- Environmental and human health risk assessments.

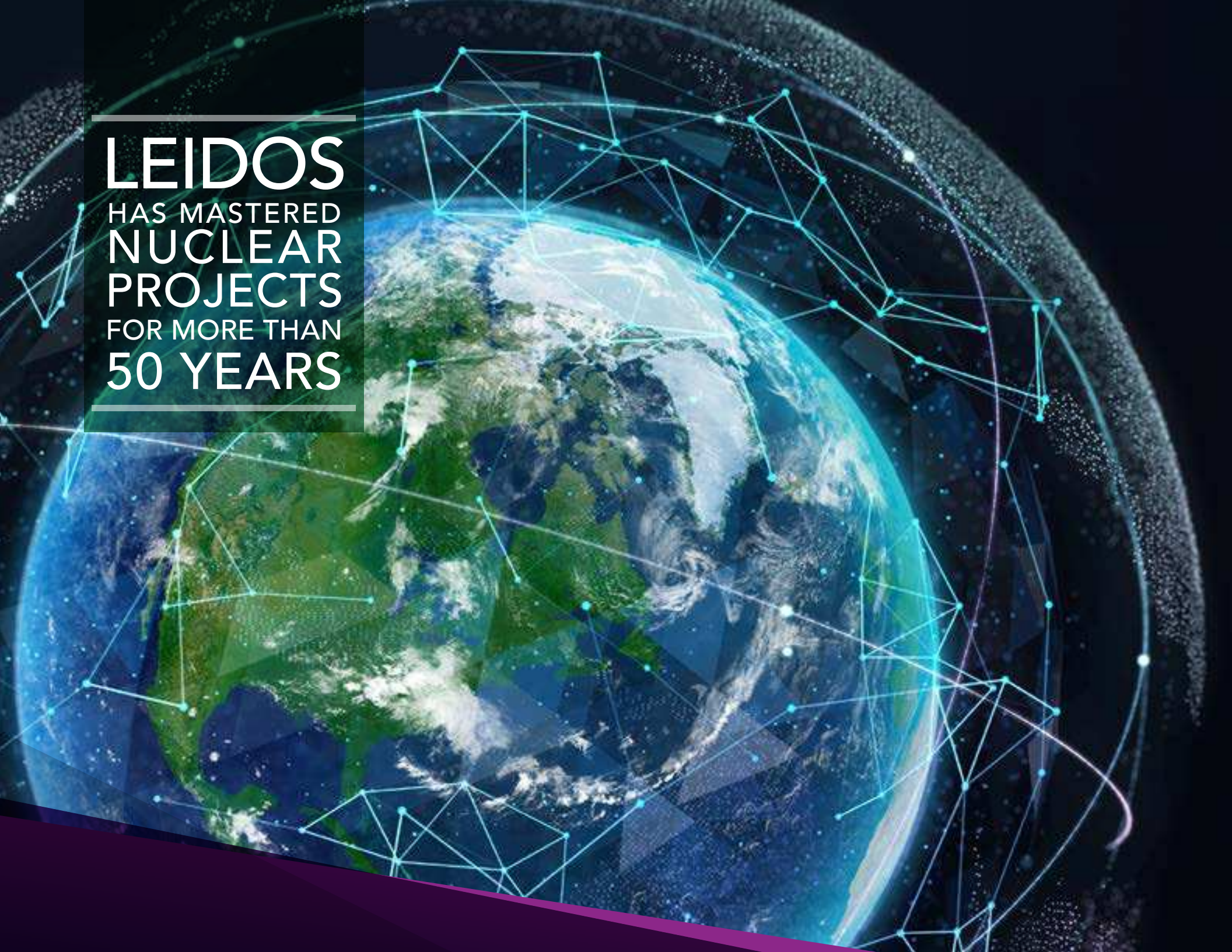
Air Quality Planning and Modeling

Air quality analysis and planning often require sophisticated dispersion models, modeling techniques and protocols, and emission factor calculations. Leidos solutions focus on cost, schedule, and quality.

Services include

- Compliance with New Source Performance Standards, National Emission Standards for Hazardous Air Pollutants, and Maximum Achievable Control Technology Standards
- Compliance with federal, state, and local air regulations
- Clean Air Act Title V and new source review permitting
- Emission inventories
- Air emission calculations for criteria pollutants and greenhouse gases
- PSD permitting, including greenhouse gases.

Leidos provides detailed air quality services for these and other industrial processes.



LEIDOS
HAS MASTERED
NUCLEAR
PROJECTS
FOR MORE THAN
50 YEARS

Keep us mission ready

Protect critical assets.
Tap unparalleled expertise.

Since the company's inception in 1969, Leidos has steadily built our nuclear security practice to keep pace with ambitious federal nuclear deterrence and nonproliferation missions.

Leidos technical support staff's breadth and depth of expertise has earned the trust of our clients to assist in the important overarching nuclear security mission. We have proven expertise in

Nuclear Weapons Mission

Leidos scientists, engineers, and program and project management experts contribute to successful implementation of

- Stockpile maintenance and life extension programs
- Cross-cutting initiatives in science, engineering, technology, and production capabilities
- Rightsizing infrastructure to meet national security requirements
- Subject matter expertise in support of computing, hydrodynamic testing, subcritical experiments, high-energy density physics, and materials and weapon-effects science.

Nuclear Nonproliferation Mission

Leidos has supported nuclear nonproliferation, emergency response, and counter-proliferation programs since the mid-1990s. Primary areas of contribution have included

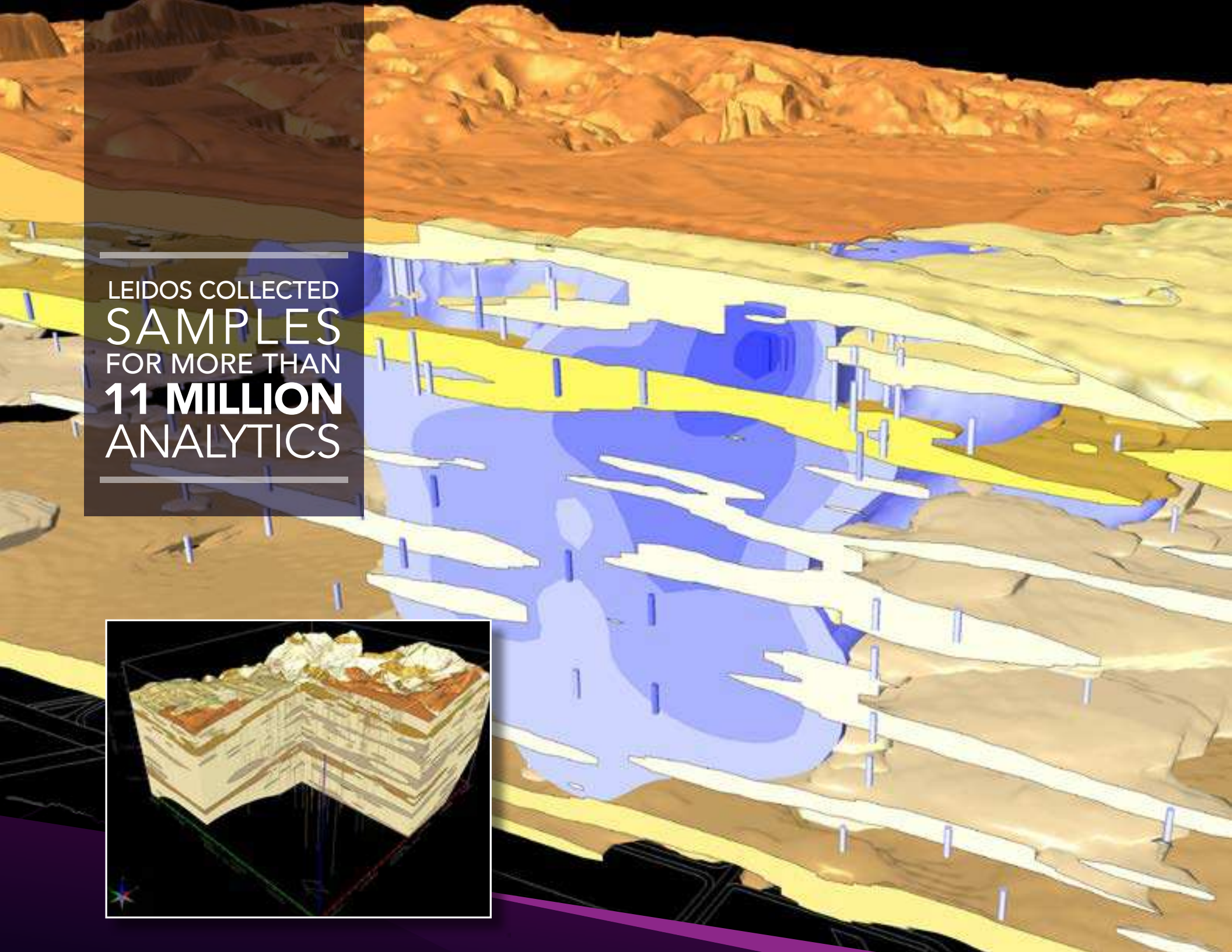
- Strategic planning support
- Transportation analysis support
- Arms control policy support
- Research and development program support
- International treaty implementation and verification.

Our Key Areas of Programmatic Technical Assistance

Leidos supports these missions with program and project management expertise, including

- Strategic program planning
- Budgeting and evaluation
- Earned value management
- Program/project controls
- Integrated master scheduling
- Risk management
- Systems engineering
- Records management.

Because of our staff's capability in engineering, physics, and program management, we also provide expertise in nuclear weapons research and development, materials science, and nuclear material control and accountability for mission critical nuclear programs. This expertise expands to include data analytics and infrastructure management to support secure facilities operations with cutting-edge logistics acumen.


LEIDOS COLLECTED
SAMPLES
FOR MORE THAN
11 MILLION
ANALYTICS

Interpret my data when, where, and how I need it

Secure and manage real-time data.
Analyze, interpret, and present critical data.

Data Management Services

Leidos delivers breakthrough technology in data management for federal and industry clients, including multisource data warehousing and GIS (geographic information system) layering. Our web-based data management system – driven by a robust relational database – allows customers to manage vast amounts of data via a user-friendly dashboard interface. Our electronic records management system enables access to extensive analytics for real-time operational and regulatory activity tracking.

With our data center and cloud computing footprint, Leidos can securely host all your real-time data. Our system combines off-the-shelf hardware with customized software to provide decision makers with online access to analytics.

Visualization and Analysis

Data visualization is a powerful tool to help solve environmental problems. Our geospatial visualization and analysis communications engineers can analyze, interpret, and present data from your site to reveal critical relationships, patterns, and trends so you can recognize the meaning and value of your data.

Services include

- GIS, digital mapping, interpretation, and classification
- Site screening with overlay analysis and operational constraints
- Accurate geographic data plot projections
- Map and scale synthesis
- Customized applications and programming.

Mathematical and Conceptual Modeling

Leidos creates tailored solutions to deliver highly efficient, actionable information. Our customized tools analyze and report trends of change using models to show operational and technical digital content analysis and forecasting.

Key benefits

- Improves transparency by optimizing monitoring and remediation designs
- Offers early detection of contaminant releases and pathways
- Aids closure determination with clear risk analysis, rapid regulatory status reports, and access to the latest remediation technology.

LEIDOS COMPLETED
MORE THAN
3000
NEPA PROJECTS
IN THE PAST
45 YEARS

Manage my environmental planning

Prepare accurate and defensible NEPA documents.
Comply with federal and state requirements.

NEPA Compliance

Your environmental compliance project requires specialized NEPA documents like environmental assessments (EAs) and environmental impact statements (EISs). Industry and federal agencies turn to Leidos for our in-depth understanding of standard procedures, permitting agency requirements, and public and stakeholder participation. Leidos offers you support in resource issues; impact analysis; and impact avoidance, minimization, and mitigation measures.

Experienced Staff

Leidos staff have completed more than 2,900 NEPA studies for complex and politically sensitive projects in wilderness, rural, and urban environments over the past 45 years. We provide corridor studies for infrastructure, including petroleum product and natural gas pipelines, fiber optic cables, and water pipelines.

NEPA Analysis and Documentation

Leidos specializes in providing accurate, realistic, and consistent regulatory compliance support with an understanding that environmental analysis and documentation are key to your continued success. We produce remedy selection decision documents and help manage ongoing compliance documents, including

- Complex NEPA compliance support, which includes EAs, EISs, categorical exclusions, and stakeholder consultations
- State environmental planning documentation and joint regulatory documents, to include EISs and environmental impact reports
- Consultations under the Endangered Species Act, National Historic Preservation Act, Clean Water Act, Marine Mammal Protection Act, and others
- Mitigation plans
- Biological evaluations and threatened and endangered species surveys
- Cultural resource surveys and evaluations
- Traffic studies and transportation analyses
- Groundwater, surface water, air quality, and noise studies/modeling
- Economic modeling evaluations
- GIS modeling and analysis.

LEIDOS CREATED

LARGEST AQUATIC CONSERVATION PLAN

IN THE UNITED STATES

Help me meet natural and cultural resource requirements

Streamline regulatory compliance.
Quantify and plan mitigation.

As stewards of resources located on your base, installation, or facility, you know how crucial it is to fulfill your mission while complying with environmental laws and regulations. Our knowledge of the regulatory environment and administering agencies comes from practical and extensive application. We intimately know the laws, regulations, and guidelines concerning these resources and can provide the project planning, analysis, and management that keep you in compliance.

Natural Resource Studies and Compliance

Our natural resources and planning team has provided successful environmental services to federal agencies for more than 45 years.

Services include

- Biological surveys, including threatened and endangered species
- Conservation planning
- Habitat surveys
- Biological assessments
- Wetland delineation
- Integrated Natural Resource Management Plan support
- Coastal zone determinations
- Wetland inventory, survey, function and values, and mapping
- Consultations with federal and state agencies.

Cultural Resource Studies and Compliance

Leidos experts will identify archaeological sites and artifacts, assess historic structures, and help protect Native American resources. Our archaeologists and historians form quick-response teams to assess the significance of cultural resources. We survey and analyze your site and support projects with mitigation plans and permit application and management.

Services include

- Providing all aspects of architectural and archaeological surveys
- Consulting with state historic preservation offices and Native American tribes
- Performing subsurface archaeological testing and historic inventories of structures
- Developing Integrated Cultural Resource Management Plans
- Collecting data and evaluating eligibility for National Register of Historic Places
- Preparing compliance forms and reports.

LEIDOS HAS COLLECTED MORE THAN A QUARTER MILLION ENVIRONMENTAL SAMPLES

Characterize my site

Investigate and characterize your air, water, and soil contamination.
Reduce lifecycle costs by optimizing treatment systems.

Environmental Resource Assessment and Monitoring

Leidos offers the environmental services you need to make scientifically sound decisions for sustainable use of resources. We help our customers characterize air, water, sediment, and soil at project sites; identify contamination; and identify potential exposure pathways and receptors.

Technical Compliance Services

- Site reconnaissance
- Preliminary site assessments and investigations
- Chemical contamination studies
- Remedial investigations/feasibility studies
- Remedial designs
- Records of decision
- Five-year reviews
- Human health and ecological risk assessments
- Historical data reviews
- Conceptual site model development
- Vapor intrusion studies for subsurface, subslab, soil gas, indoor and ambient air samples.

Leidos offers investigatory field activities and collection, analysis, and interpretation of environmental resource samples. We can recommend remediation technologies based on site geology, hydrogeology, chemicals of concern, efficiency of removal rates, and cost effectiveness for your site. We can reduce your life-cycle costs by optimizing your groundwater or wastewater treatment systems.

Multimedia services include

- Soil, sediment, air, groundwater, and surface water sampling and analysis plans
- Evaluation and modeling
- Point-of-compliance monitoring design
- Munitions and explosives characterization
- Subsurface investigations (drilling and/or trenching)
- Surface and subsurface imaging and 2-D and 3-D modeling
- Utility detection
- Waste characterization
- Munitions response.

LEIDOS HAS COMPLETED MORE THAN 22000 ENVIRONMENTAL PROJECTS

Clean up my site

Optimize long-term remedial system and monitoring.
Minimize future environmental and financial liability.

Hazardous Waste Characterization and Remediation

Our experience completing more than 22,000 environmental remediation projects across the United States has established Leidos as a leader in remediation. We can help you successfully close your sites after cleanup following CERCLA/Superfund Amendments and Reauthorization Act (SARA), RCRA, Toxic Substances Control Act (TSCA), Occupational Safety and Health Administration (OSHA), and other federal, state, and local regulations regarding hazardous materials assessment and hazardous waste management. Our waste management services include waste minimization, recycling, safe and compliant transport, and disposal.

Remediation services include

- Site investigation
- Treatment systems analysis
- Storage and transportation method evaluation
- Remedial measure development and implementation
- Legacy waste remediation
- Decontamination and decommissioning
- Compliance with federal and state regulatory requirements.

Leidos has evaluated and remediated hazardous materials, waste streams, and operating practices for a full range of federal and state customers.

Working collaboratively with federal, state, and local governments, we perform

- Compliance evaluations
- Phase I, II, and III site assessments and investigations
- Feasibility studies and treatability studies
- Waste storage, management, and disposal
- Contaminated groundwater recovery, treatment, and reinjection or disposal
- In-situ and ex-situ bioremediation, chemical oxidation, air sparging, and bioventing
- Soil vapor extraction and off-gas treatment
- Sub-slab soil gas abatement
- Excavation and off-site disposal
- Containerized waste characterization and disposal
- Tank, sump, and equipment cleanout and decontamination
- Encapsulation, solidification, and stabilization
- Wetland construction.

DETECT, CLASSIFY, EVALUATE

MUNITIONS SAFELY WITH LEIDOS' **PATENTED** GEOPHYSICAL TECHNOLOGY

Remove munitions from my soil and water

Detect and classify anomalies.
Recover munitions and explosives of concern.

Munitions Response Services

Saving time and money, and meeting all cleanup requirements do not have to be mutually exclusive. Leidos supplies conventional and specialized munitions response expertise at DoD sites across the United States. Our unique qualifications, technology, experience, and knowledge of federal facility operations and standards provide exceptional value to our clients.

Technical Capabilities

Leidos is committed to safety, quality, technical excellence, and cost effectiveness throughout the Military Munitions Response Program (MMRP).

Our trained and qualified staff support

- Historic records review, site inspections, remedial investigations, feasibility studies, and remediation
- Geophysical and intrusive investigations
- Munitions and explosives of concern (MEC) destruction
- Munitions constituents sampling and risk assessments
- Anomaly avoidance and construction support
- Inspection/certification/disposal of material potentially presenting an explosive hazard (MPPEH).

Defense Sites Experience

Leidos has been a leading contractor for the U.S. military services supporting munitions projects at Base Realignment and Closure (BRAC) and Formerly Used Defense Sites (FUDS) since 1993. We have executed all phases of the MMRP process at munitions response sites at FUDS, BRAC sites, and active installations for Army, Air Force, Navy, and commercial clients.

Regulatory Knowledge

Leidos regularly supports the MMRP, adhering to DoD and regulatory policy, guidance, RCRA permit requirements, and other requirements for CERCLA, and other regulatory programs.

Innovative Technology

Whether on land or in aquatic conditions, Leidos is uniquely capable of fielding novel, yet cost-effective technology. To overcome inherent risks in destroying MEC and MPPEH in underwater environments, Leidos is developing an innovation that will safely disarm explosives using a high-pressure, abrasive water jet carried by deep-sea robotics. The system will not detonate explosives, which could damage marine life, but instead will cut munitions into pieces and recover explosives and metal casings for recycling.

50 YEARS OF ENVIRONMENTAL EXPERIENCE LED LEIDOS TO INNOVATE PFAS REMEDIATION PROCESS

Safeguard my water supply

Characterize the extent of PFAS in my environment.
Cleanup contaminated areas.

PFAS (per- and polyfluoroalkyl substances) are the active ingredients in firefighting foam and many other consumer products. Because PFAS persist in the environment and are soluble in water, plumes of contamination can form where operations use these complex, human-made compounds. When PFAS releases occur near areas served by private or public drinking water wells, the drinking water supply is susceptible to contamination.

Although currently there are no federal, maximum contaminant levels established for PFAS, the U.S. Environmental Protection Agency (EPA) has issued health advisories for specific PFAS and has established an Action Plan. Some states already have PFAS regulations in place. As the EPA Action Plan and Congressional hearings on PFAS grab national headlines, our clients understand how these actions may impact their missions and have turned to Leidos for an expert response.

Ahead of the Curve

Using five decades of environmental remediation experience, we have tailored our techniques toward PFAS to develop a unique Leidos PFAS process. We use this process at clients' sites to rapidly identify the issues, characterize the site, and determine options for remediation.

Leidos has been providing PFAS solutions to DoD and commercial clients since 2013. We have investigated, characterized, and treated PFAS nationwide. Our PFAS remediations address environmental media (soil, sediment, surface water, groundwater, and wastewater) and include waste management, according to changing legislative requirements.

Services include

- Environmental site characterization
- Preliminary assessment, site inspection, and interim remediation
- Sampling and reporting
- Remedial investigation and design and feasibility studies
- Investigation-derived waste management.

Key benefits

- Our experience comes from doing hands-on PFAS work at multiple sites, creating a wealth of background knowledge. This experience reduces client risk and increases value.
- We have an innovative process, specifically designed for addressing PFAS.
- Leidos-tailored PFAS strategies meet our clients' needs while providing appropriate actions to protect local residents.

LEIDOS NAMED

#6

HAZARDOUS WASTE AND COMPLIANCE

ENR, 2022

Keep me in compliance with evolving regulations

Navigate regulatory changes.
Protect land for future generations.

Regulatory Compliance and Permitting Landscape

Environmental best practices enable you to manage resources responsibly. They build public and regulatory confidence and trust in your organization's ability to conduct safe and clean life-cycle operations. Government projects and private industries of all sizes turn to Leidos for help in navigating the complex landscape of regulatory compliance and permitting.

For more than 30 years, our experts have been helping customers comply with CERCLA/SARA, RCRA, TSCA, OSHA, Emergency Planning and Community Right-to-Know Act (EPCRA) and other federal, state, and local regulations.

Leidos offers support to ensure projects and programs comply with NEPA, Endangered Species Act, National Historic Preservation Act, Clean Water Act, and Clean Air Act. Our ability to assist clients on all environmental issues is founded on our comprehensive and nuanced understanding of the requirements and evolving nature of applicable federal and state laws.

Services include

- Standardized site opportunity assessments
- Site visits with focus on significant pollution prevention aspects
- Certified environmental systems management
- Site-specific visits and interviews
- Findings and recommendations reporting
- Pollution prevention training
- EPCRA and Toxic Release Inventory reporting
- Water sourcing and permitting.

Training On Your Site

Leidos provides pollution prevention training, tailored to comply with all of your appropriate policies at all employee levels. We provide experienced trainers to teach the process of identifying and evaluating potential pollution prevention opportunities. We also provide EPCRA reporting support for all potential applicable requirements. Through site visits, hazardous material tracking reports, and agency consultation, we develop the required form submission and a corresponding report, which includes the supporting calculations and documentation.

WASHINGTON TECHNOLOGY

NAMED LEIDOS NUMBER ONE IN 2022 TOP 100 TECHNOLOGY FIRMS

Streamline my data

Future proof your data operations.
Save program dollars.

New and future computing demands may significantly impact your organizations' infrastructure, straining onsite data centers' capacities for storage and data management. You know how critical it is to keep your data accessible and stable, yet your site servers take up a lot of costly real estate and may not be as responsive as you need. Leidos offers IT services and applications built from scratch to fit your business requirements to replace older, less cost-efficient data processing systems.

Cloud Storage

Leidos offers our clients an array of server virtualization technologies that add layers of advantages over traditional onsite data storage. Our IT modernization experts are ready to assess your operational needs and implement updates that allow flexible capacity and improved data access agility and processing speed, while saving space and energy costs. Data can be migrated from host environments to cloud-based storage and can be done with uninterrupted access to files.

Technical data storage services

- Server usage and migration planning
- Analysis of day-to-day operation workloads
- IT infrastructure optimization
- IT and energy costs reductions
- Virtualization and optimization integrated into existing data centers
- Experts available to assist you on site and at virtualized sites.

Innovative IT Solutions

Because commercial off-the-shelf IT systems do not work for everyone, Leidos offers our national and international clients specialized IT support that

- **Streamlines** electronic forms, including large databases of employee histories, licenses, or tracking locations of sensitive materials
- **Modernizes** data operations with application enhancements supplied by our broad range of subject matter experts and solution designers who understand clients' missions and provide responsive user services
- **Saves program dollars** with web-based, customized IT applications that suit unique and specialized business scenarios.

Customized IT services

- Database design services and applications
- Updated infrastructure
- Real-time analytics
- Secure, web-based records management
- Data systems development and maintenance
- Interagency data share facilitation
- Transitions from paper to customized electronic forms
- Problem-solving user services.

280

DATA CENTERS CONSOLIDATED TO

THIRTEEN

FOR AUSTRALIA'S DEPARTMENT OF DEFENSE

Unlock my data's full potential

Improve operational effectiveness.
Integrate large-scale systems into a single architecture.

Leidos understands that when environmental data is spread across disparate systems, accessing the right data can be difficult. By integrating various technical assets into a single architecture, you can improve operational effectiveness, reduce costs, streamline business processes, and enhance your information management.

With cross-platform functions, our clients and their stakeholders can manage everything from emails to desktop files to readily retrieve official records and spot technical and programmatic trends.

Services include

- Oracle® application development framework
- Agile® software development
- Oracle database and data warehouse
- Analytics strategies using Oracle Business Intelligence
- Microsoft SharePoint® applications
- Document management with EMC Documentum®.

From Raw Data to Decision-Making

Leidos provides comprehensive accounting services in the areas of data processing, postage, integrated financial management systems, relocations, background investigations, and conference and meeting planning by offering IT and infrastructure services to clients. Leidos has designed and developed enhanced automation tools that simplify ordering, billing, and other operations and maintenance (O&M) requirements.

Services include

- Monthly reports to help customers plan, manage, and control information resource usage
- Financial transactions for revenue and accounts receivable
- User training, workshops, and help desk support
- Application development and support
- Customized IT tools for O&M support.

LEIDOS SUPPORTS >4K NUCLEAR ENVIRONMENTAL CLEANUP STAFF WITH IT AND CYBER SECURITY

Bridge the gap between business and IT infrastructure

Deliver responsive user services.
Customize how your IT operates.

Cyberspace is an extension of your physical reality. Your employees' devices outnumber your employees, and their interconnections are more numerous and complex every day. Managing technology requires more than buying a few products and hoping for the best. It is imperative that you have smart people who know how to design, manage, and protect those systems. Leidos experts are ready to address your needs with skilled staff and advanced technology to put you at the forefront of your domain.

Combining a broad range of technical expertise with unparalleled commitment to client satisfaction, Leidos is an international leader in software development and IT operations and maintenance services.

Software development services

- Requirements analysis, design, coding, and testing
- Production deployment
- Agile IT development
- Application prototyping
- Web application development and management
- Database development and management
- SharePoint customization and administration
- Drupal™ website development.

IT operations and maintenance services include

- Business intelligence and analytics
- Operational support
- Software maintenance and upgrades
- Telecommunications maintenance (data, voice, images, wireless)
- Infrastructure and configuration management
- Help desk/IT support
- Resource management
- Backup and recovery management
- Installation, configuration, and tuning
- System management
- IT training
- IT operation and maintenance planning
- Data quality management
- Transformation services
- Continual service improvement
- IT infrastructure optimization.

LEIDOS HAS
35 YEARS
OF NATIONAL AND INTERNATIONAL
AWARDS
FROM THE SOCIETY
OF TECHNICAL
COMMUNICATIONS

Keep my public communications clear and effective

Deliver early and complete communications.
Meet public participation requirements.

Community Relations Services

Every public dialogue about your environmental project is important. From full-scale formal public meetings with scientific, technical, and regulatory representatives to open house poster sessions with stakeholders, Leidos helps your organization respond to community information needs. We will work with you to help define the appropriate level of public participation for your success.

Leidos delivers early communications to gauge the extent of public interest and tailors outreach accordingly. In response to changing public concerns, our public outreach specialists help you determine the best communications strategy for your intended audience. Our services include document development (public notices, fact sheets, newsletters, posters, press releases); website design and maintenance; survey creation and delivery; and graphic design and production. Leidos specialists help you work with federal and state organizations to provide public outreach that builds trust, dispels rumors, and increases public understanding.

Enhance Community Support and Minimize Delays

Your effective public participation program promotes substantive communication and improves understanding on all sides. Leidos will help minimize controversy and costly procedural delay.

Services include

- CERCLA- and NEPA-mandated public meetings, hearings, and workshops with logistics, media, and facilitation support
- Community involvement plans and surveys
- Communication products written in plain language
- Responsiveness summaries
- Online communications through social media and websites
- Support for working relationships with key audiences, including stakeholder organizations, tribal governments, and civic groups
- Coordination for stakeholder workshops, citizen advisory boards, and restoration advisory boards
- Administrative record protocol.

Case Studies

We collaborate with government agencies and commercial clients to provide groundbreaking scientific research and environmental management best practices. Our trusted expertise supports energy projects, emergency response, and environmental and nuclear security programs for a safer, cleaner world.

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Energy consumption data

Our expertise in DOE program management and project control enhances data collection and reduces program costs and respondent burden.

WHY LEIDOS?

Information Technology

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ENERGY INFORMATION ADMINISTRATION

Leidos' ability to manage large, complex programs throughout 50 states is at the heart of this contract with the U.S. Energy Information Administration (EIA). EIA has worked with Leidos for more than 35 years on multiple contracts and task orders and knows our commitment to improving data analytics, management processes, reducing costs, accelerating response time, and improving outcomes for our clients. The Commercial Buildings Energy Consumption Survey (CBECS) is EIA's complex, high visibility survey based on a massive collection of data about how energy is used in U.S. commercial buildings. EIA and many industries use the data to understand and project national energy consumption requirements.

Leidos Offers Two Important Differentiators

Because one size does not fit all, Leidos designed specific program management operations uniquely suited to EIA's survey needs. We designed and use two management techniques: the Earned Value Management System and the Risk Register. Our Earned Value Management System tracks the survey work completed within a period of time and records accomplishments against schedule and goals that include training, interviews, and data collection and transmission. Leidos also runs a live, comprehensive Risk Register that charts milestones and costs and alerts at the earliest possible indication of a potential schedule or cost impact. This minimizing risk and maximizing success approach identifies potential roadblocks before any one of the 376 tasks start and proactively pinpoints specific counter measures.

Leidos looks for applications of the latest technologies that can assist program management processes and procedures.

"Leidos is pleased to continue to provide EIA with tested, feasible, and relevant approaches that we have refined over the last 35 years," said Jay Ratafia-Brown. "Our CBECS support builds and changes with advances or shifts in government objectives."

We monitor surveyor teams' efforts, oversee the overall project schedules, coordinate multiple subcontractors in the day-to-day/week-to-week work, and report the status to EIA. EIA trusts our program management teams to support its mission with program management that includes

- Systems engineering and scheduling
- Program budget and technical planning assessments
- Program execution cost analysis and milestone tracking
- Project control and risk management
- Senior leadership team coordination
- Critical survey team communications and sustainment
- Equipment control and accountability tracking databases
- Communication records management.

Secure and sustainable domestic energy

We are internationally recognized for our leadership in designing, developing, and deploying advanced innovations for use in energy applications.

WHY LEIDOS?

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NATIONAL ENERGY TECHNOLOGY LABORATORY

By using fossil energy in the wisest ways scientifically possible, we protect our environment and enhance our energy independence. Leidos supports the safe and efficient research operations under the Research Support Services Contract at the National Energy Technology Laboratory (NETL) to deliver innovative technologies that can enable affordable, sustainable use of our abundant domestic energy resources.

Leidos integrates science, engineering, and technology to address known energy challenges while proactively seeking solutions for tomorrow's challenges. We execute an energy research portfolio of national importance. We discover, mature, and deploy innovative technologies that will maintain a cutting edge for these core competencies:

- Computational science and engineering
- Energy conversion engineering
- Geological and environmental systems
- Materials engineering and manufacturing.

This contract supports 160 employees in three locations: Pittsburgh, Pa.; Morgantown, W.Va.; and Albany, Ore. Our onsite teams include electrical, mechanical, and chemical engineers; geologists, biologists, chemists, geochemists, environmental and materials scientists; and physicists – experts who represent some of the top R&D specialists in the world. Leidos provides the workforce required to maintain these competencies, including reach-back corporate resources for short-term subject matter expert (SME) support. Leidos also provides SMEs to NETL to develop an overall strategy for implementation of Artificial Intelligence/Machine Learning, as it relates to NETL's core competencies and technology thrusts.

Leidos provides NETL's Research and Innovation Center with product and logistical support for strategic business development, proposals, technology transfer and agreements, education and outreach, and general administrative work. Enhancing the impact of its knowledge and technology products at the core of the laboratory, Leidos supports ancillary activities for the efficient conduct of research.

Work-for-others projects (or strategic partnerships projects) with external funding organizations reinforce NETL's mission as the nation's premier fossil energy research laboratory. Leidos develops and implements a process to identify and pursue business opportunities between NETL and external organizations.

Leidos' support to NETL effectively combines science-based simulations with targeted experimental validation from laboratory to demonstration scale, accelerating the technology development process that attains the energy, economic, and environmental goals pursued by the laboratory.

Leidos supports science-based simulation models, mathematical methods and algorithms, and software tools required to address the technical barriers in the development of next-generation technologies.

Reducing carbon footprint with innovation

We continue to build on our history of innovative problem-solving and customer service.

WHY LEIDOS?

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NATIONAL ENERGY TECHNOLOGY LABORATORY

The NETL contract gives Leidos the goal of researching optimal ways to use energy-rich coal without producing carbon waste. Leidos' Research Support Services (RSS) Team supplies an engineering innovation that will likely build stronger roads and bridges and manufacture high-tech products like faster computers. Future potential uses include life-saving biosensors to confirm the presence of disease in the human body.

So thin it is almost transparent, graphene is made up of carbon atoms linked together in a honeycomb pattern, only one atom thick. Stronger than steel, graphene is probably the world's strongest material and has higher electrical and thermal conductivity than copper. It is useful in computer circuitry, solar storage, car batteries, smartphone screens, and bulletproof vests. Despite these qualities, graphene is not widely used in consumer products because of challenges in producing large volumes of it.

Leidos RSS researchers and co-researchers from NETL were recognized for their work in a ground-breaking NETL "coal-to-graphene" process, or C2G, with the prestigious R&D 100 Award. C2G converts various grades of coal into carbon products containing unique "graphene-like" nanosheets of carbon that are only one layer of carbon thick and up to 1 micron in diameter.

NETL and Leidos have discovered new ways to transform coal into graphene. Scientists fabricate extremely thin layers of graphene, among other materials. Ten atomic layers build the world's thinnest, most flexible, and transparent transistors.

The RSS Team's work has found a way to use inexpensive salts as "catalysts" to make this high-value carbon product significantly cheaper in the coming years. Their research looked at the abundant resources of U.S. coal and developed a "one-pot" synthesis procedure to produce carbon products containing unique nanosheets of carbon. This simple, one-pot method is not only inexpensive; it produces 6 to 10 times higher volumes than current approaches. Graphene processing captures the carbon in coal, thus creating a product that is of a higher quality than what is commercially available.

The cheaper production method of graphene presents a wealth of opportunities. For example, the superior electrical conductivity of graphene can help produce faster microprocessors. And graphene's favorable strength-to-weight ratio means it is ideal for making bulletproof vests and aerospace equipment.

The esteemed R&D 100 Award honors researchers whose efforts are recognized for being among the 100 most technologically significant innovations introduced into the marketplace in the last year. The Leidos RSS Team was identified for its extraordinary work as R&D pioneers and for their revolutionary ideas in science and technology.

The team that developed NETL's Low-Cost Coal-to-Graphene Manufacturing Process received the R&D 100 award in the Mechanical/Materials category. Leidos continues to support work that is continuously pushing boundaries of current research efforts to discover and develop new and innovative ways to generate concepts and produce products that are cheaper, more efficient, and meet client-directed goals.

Analyzing the entire energy chain

Information Technology

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NATIONAL ENERGY TECHNOLOGY LABORATORY

Our full understanding of DOE's NETL mission allows us to look mindfully at the data of an entire energy chain. For NETL's Mission Execution and Strategic Analysis (MESA) contract, our experts analyze large, multimedia data sets to help improve decision-making and business practices for NETL. We support the design of mission-specific, tailored analytic systems that transform raw data into valuable knowledge that helps make our country safer, healthier, and more efficient.

Leidos, as a subcontractor, provides technical and administrative support services for program and project planning, execution, monitoring, and assessment, as one part of our support. We also provide strategic analytics across four strategic analysis areas: process and cost engineering analysis, energy market finance and technology deployment analysis, life cycle analysis, and subsurface analysis to help NETL direct research priorities, focus resources, and strengthen operations. This support spans the DOE offices of Fossil Energy, Energy Efficiency and Renewable Energy, and Electricity Delivery and Energy Reliability.

Your mission is our mission

NETL defines a program as a set of activities with a common purpose undertaken in support of an assigned mission area. Within a program, a group of projects coordinates to accomplish the program over a specified timeframe. NETL's MESA team evaluates the readiness of these projects as they develop from laboratory scale to pilot or full-scale demonstration in a timeline of up to 15 years. Our job is to be cognizant of ongoing requirements, regulations, internal and external stakeholders, implementation strategies, and other current or emerging factors that may influence NETL's research programs.

Leidos provides the pivotal information that NETL relies on to make effective and efficient decisions so that its programs and projects successfully reach fruition.

Our real-world experience helps NETL to focus its R&D in the private sector – where NETL technologies, intellectual property, and solutions help the nation achieve and maintain energy dominance.

WHY LEIDOS?

Strategy for energy advancement

Another key to Leidos' support is our mix of interdisciplinary technical experts in engineering, economics, business, and policy, who provide an in-depth understanding of the U.S. energy field. Whether dedicated, onsite staff members, or reach-back to expertise from across Leidos, we know conventional and advanced energy technologies and regulatory, legislative, and policy issues, and use that knowledge to help NETL to advance its mission to discover, integrate, and mature technology solutions to enhance the nation's energy foundation and protect the environment for future generations.

Leidos offers energy infrastructure analysis that guides decision-making and business practices, saving money and helping the environment.

Linking energy and environment to mission

We align strategies to manage risks that complex energy and environmental systems pose to each customer's distinct operations and assets.

WHY LEIDOS?

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION HEADQUARTERS

Leidos embraces NASA's risk management culture, applying a mindset of scientific and engineering discovery to protect the mission. We serve as a systems integrator for NASA HQ. Providing deep reach-back to experts in energy, environment, and NASA programs, Leidos understands the impacts from complex interconnections between energy and cyber infrastructure, a changing climate, human capital, and resilience and sustainability drivers.

Leidos streamlines mission considerations within energy and environmental program execution by looking beyond organizational silos. We align technical expertise with stakeholder engagement, outreach, and award-winning training and risk communication.

- Leidos facilitated NASA HQ's **Sustainability Working Group** (SWG) formation in 2009 and continues supporting the SWG to engrain strategies Agency-wide.
- Through the **Interagency Forum on Climate Risk, Impacts and Adaptations**, Leidos has helped NASA engage with a broad spectrum of external partners for 17 years to share best practices, and we helped develop NASA's first Climate Risk Management Plan.
- Our team won the Outstanding Collaborative Planning Project or Program award for **Building a Climate Resilient National Climate Region** workshops, co-sponsored by NASA.
- Leidos was granted a 2018 HQ Honor Award for reviewing NASA's first Agency-wide Strategic Energy Investment Plan, which links energy and budgetary goals.

Holistic risk management demands a mission focus. However, energy and environment impact NASA's individual Programs and Field Centers differently. For instance, facilitating **NASA's Center Climate Risk Workshop Series**, Leidos worked with NASA climate scientists to craft data messaging unique to each Center's needs. We analyze differing mission roles and geographic locations to deliver tailored solutions:

- Reviewed Center Energy Savings Performance Contracts and potential Power Purchase Agreement opportunities to manage long-term costs.
- Employed GIS to visualize vulnerabilities in California, where NASA has a dense physical supply chain.
- Applied advanced statistics to characterize changes in rainfall Intensity-Duration-Frequency curves for all 13 major NASA Centers.
- Explored mission risk imposed by critical mineral resources essential to the aerospace industry.
- Assisted in developing Federal Energy Management Program **Energy & Water Management Awards** submissions, helping NASA win awards in the Midwest and Southeast United States.

Awarded Best in Show by the Society of Technical Communications, Chicago Chapter, Leidos developed these trifolds for in the NASA Center Climate Risk Workshop Series.

Nuclear security for a safer world

We are committed to nuclear security, meeting the requirements for reliability and military effectiveness of the nation's nuclear deterrent, and minimizing the threat of nuclear proliferation.

WHY LEIDOS?

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NATIONAL NUCLEAR SECURITY ADMINISTRATION

Since Leidos' inception in 1969, we have steadily built our nuclear security practice to keep pace with determined federal nuclear deterrence and nonproliferation missions. Supporting DOE's National Nuclear Security Administration (NNSA), Leidos assists federal program managers to plan and evaluate efforts to sustain the nation's existing nuclear weapons stockpile and minimize the threat of nuclear proliferation.

We also understand the challenges of maintaining U.S. nuclear weapons in a safe, secure, and reliable manner in the absence of underground nuclear testing. Our technical, engineering, and program management expertise supports NNSA across diverse contract areas consisting of program management, program budgeting and execution, nuclear engineering, materials science, systems engineering, earned value management, training, security management, nuclear nonproliferation, and emergency management.

Our NNSA scope of work includes

- Stockpile life extension programs
- Stockpile sustainment, research, development, testing, and evaluation
- Strategic planning/communications and materials management
- High performance computing programs
- Technology maturation efforts
- Systems engineering and integration
- Nonproliferation research and development programs
- International programs.

Leidos supports NNSA's liaisons with national security laboratories, production facilities, other federal organizations, and commercial entities through numerous working groups and teams by providing technical expertise and analysis.

Technical expertise and analytical support

Leidos provides solutions to nuclear programs and initiatives through specialized skills and experience that range from nuclear engineering to strategic planning and communications. Our personnel have expertise (and are often accredited and credentialed) in program management, scientific, and engineering disciplines with abilities to provide expert review and analysis. Leidos is proud to partner with NNSA and provide technical expertise and analytical support in meeting the nuclear deterrent mission.

Leidos has proven expertise providing support to NNSA's Defense Programs nuclear weapons mission.

Groundwater issues

Our remediation solutions feature innovative designs, execution under our industry-leading safety program, and demonstrate unwavering commitment to our client's mission requirements.

WHY LEIDOS?

AIR FORCE CIVIL ENGINEER CENTER

At a New Jersey military base located within the environmentally sensitive Pinelands National Reserve, the nation's first National Reserve, the U.S. Air Force is cleaning up contamination from past activities. Joint Base McGuire-Dix-Lakehurst (JB MDL) spans 42,000 acres and integrates McGuire Air Force Base (Air Force), Fort Dix (Army) and Naval Air Engineering Center-Lakehurst (Navy).

JB MDL lies within a unique ecosystem and groundwater aquifer characterized by extensive pine forest habitat, tea-colored streams, sensitive wetlands, peat deposits, and atypical acidic groundwater chemistry. Within the McGuire Air Force Base portion of JB MDL are nine operable units where CERCLA NPL sites are located. Leidos is there, applying its 50 years of environmental industry experience to support the JB MDL remediation team.

We support the Air Force Civil Engineer Center* through investigation phases to remedial actions and site decommissioning through regulatory closeout for 21 sites within the McGuire Air Force Base portion of JB MDL. The sites include landfills, fire training areas, petroleum release sites, base shops, and support facilities – some with commingled petroleum and chlorinated solvent groundwater plumes. Working closely with stakeholders, Leidos coordinates with the Air Force to ensure our remedial actions do not impact mission-critical activities, long-term planning, or requirements of the Pinelands Preservation Area.

Leidos is developing and applying traditional remedial technologies, such as excavation, in-situ chemical oxidation (ISCO), and innovative, sustainable remedial solutions to address soil, surface water, sediment, and groundwater contamination. We successfully completed remedial actions for two sites, using natural attenuation and ISCO remedies, and achieved remedial goals 3 to 20 months ahead of schedule, allowing for two early site closeouts.

Innovative pilot study

Leidos is implementing a 2-year pilot study to evaluate prospective in-situ groundwater cleanup approaches to address commingled contaminant plumes. This study identifies potential applications of technologies within this challenging aquifer. Our laboratory-scale pilot study phase used in-situ microcosm studies and evaluated geochemistry to recommend potentially feasible approaches. We are using our current field-scale pilot study to assess nutrient and buffering injection amendments, bioaugmentation cultures, and optimal injection methods. The pilot study results will provide key information to develop final remedies for contaminant plumes.

Leidos designed and constructed an air sparge and soil vapor extraction system to remediate petroleum contamination in groundwater and smear zone soil in this complex site in New Jersey.

** This case study does not reflect endorsement from the U.S. Air Force or DoD.*

Information Technology
Energy
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Hazardous, toxic, and radioactive waste

Program Knowledge + Technical Expertise + Quality Focus + Safety Culture = Low Risk, High Value

WHY LEIDOS?

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U.S. ARMY CORPS OF ENGINEERS

While developing atomic weapons in the 1940s, the Atomic Energy Commission processed uranium and transported uranium-containing materials over multiple locations in the St. Louis area. Cleaning up contamination left behind by these activities is the mission of the Formerly Utilized Sites Remedial Action Program (FUSRAP) managed by the U.S. Army Corps of Engineers (USACE) St. Louis District. USACE has partnered with Leidos to perform FUSRAP-related hazardous, toxic, and radioactive waste (HTRW) investigations and environmental remediation services since 1998.

With 25 years of experience in addressing HTRW sites and meeting stakeholder concerns, our success is firmly based on our sustained relationship with the client and community. From it, we use a complex understanding of state and federal regulatory requirements, program knowledge, and the experience of subject matter experts to identify effective and cost-saving solutions.

Working closely with USACE, other contractors, and regulators, Leidos designs and executes efficient, reliable solutions to identify and address multiple media (soil, sediment, surface water, groundwater, air, and buildings) at non-contiguous sites that are potentially contaminated with radiological or chemical contaminants.

An important component in our comprehensive radiological services is expertise with the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM). In close coordination with USACE, Leidos uses historical research, knowledge of contaminant migration in the environment, and advanced geographic and topographic analyses to assist in determining proper MARSSIM classification of areas and to determine appropriate strategies for investigatory sampling.

One of the hallmarks of Leidos' innovative sampling approach is to plan investigatory efforts with MARSSIM Final Status Survey (FSS) requirements in mind. This approach yields robust characterization data of sufficient statistical power and quality to meet FSS requirements, often without the need for a separate, subsequent FSS sampling effort and additional costs.

Samples from the St. Louis FUSRAP sites go to the Leidos-staffed onsite laboratory, the only USACE laboratory accredited by DoD Environmental Laboratory Accreditation Program for gamma spectroscopy and wet-chemistry isotopic separations followed by alpha spectroscopy.

This Leidos-innovated lab saves about $1 million per year compared to using commercial laboratories when factoring in the accelerated sample turnaround.

Leidos chemists and laboratory specialists manage and operate the USACE's St. Louis FUSRAP radio-analytical laboratory, performing thousands of accurate and timely analyses each year.

Remedial investigation and feasibility study

U.S. ARMY CORPS OF ENGINEERS

Leidos conducted a remedial investigation and feasibility study under CERCLA at the Breezy Hill Artillery Range, a FUDS.

The Breezy Hill Artillery Range required a remedial investigation to characterize the potential hazard associated with the presence of MEC within the 32,933-acre project area. Leidos worked hand-in-hand with the Breezy Hill project delivery team to develop a 90 percent confidence level for Digital Geophysical Mapping (DGM) coverage that was acceptable to all stakeholders, stayed within budgetary limitations, and did not disturb the natural setting of the Kisatchie National Forest.

To start the project, Leidos formalized a plan to meet the confidence level while collecting 217 acres of DGM coverage. Approximately 84 percent of these DGM acres were collected using our proprietary Vehicular Simultaneous EM-61 and Magnetometer System (VSEMS) equipment over drivable roads, while the remaining 16 percent were collected using two traditional EM-61 two-man crews over varying terrain. To increase the level of confidence in target areas within Kisatchie National Forest, which contains swampy areas and thick vegetation, Leidos took an unconventional approach. Rather than surveying transects at a fixed spacing across the entire site, we maximized the area that can be covered in a rapid, high-quality, and cost-effective manner by surveying with VSEMS and filling in gaps with transects and grids surveyed with man-portable geophysical systems.

Leidos innovative measures provided a rapid, highly accurate, and cost-effective survey of this FUDS site.

> "The Leidos-patented VSEMS equipment has been the key tool in our stakeholder-approved approach to effectively minimize impacts to private interests and environmentally sensitive areas managed by the Forest Service."
>
> – John Lynch, Environmental Planning and Restoration Portfolio Lead

The technical project planning process was performed entirely by Leidos and involved coordinating with multiple regulatory agencies, including Fort Worth District, USACE; EPA Region 6; Louisiana Department of Environmental Quality; U.S. Department of Agriculture Forest Service; and private property owners. After supporting the remedial investigation/feasibility study, Leidos supported public outreach efforts for stakeholder input on the proposed plan.

WHY LEIDOS?

Collaborated with Visual Sampling Plan software developers to extend the software's capability for real-time gap analysis and survey coverage requirements in order to achieve project goals.

Information Technology

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Legacy mining contamination

Information Technology

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NAVAJO NATION

Abandoned mines across the sprawling Navajo tribal lands resulted from the need for uranium ore for national defense and energy purposes beginning in the 1940s. Today, gamma radiation around the 521 mines is significantly higher than naturally occurring levels. Through the Scientific, Engineering, Response & Analytical Services (SERAS) contract with the EPA's Environmental Response Team (ERT), Leidos has worked closely with ERT, EPA Region 9, and Navajo Nation officials to investigate these sites in Arizona and New Mexico. Together, they determined risk posed to human, livestock, and environmental health and to remediate as needed.

Leidos designed and provided technical support to the final restorations of some mines.

Leidos determined that contaminated soils in the mine areas have migrated over time with wind and rain. Sections of the sites, slopes, and other adjoining areas are highly eroded due to intense rain storms that occur seasonally, creating channels and gullies. Stakeholders were concerned that local irrigation channels, storage ponds, and farm fields may have been impacted by known contaminants.

In order to determine the impact to irrigation systems and farm fields, Leidos sampled soil, sediment, surface water, and plants; performed laboratory analysis of samples for contaminants of concern; created a laboratory-controlled plant growth study to determine potential plant uptake of key contaminants; and completed focused ecological risk and food chain evaluations.

To calculate the movement of contaminants, Leidos carried out preliminary site reconnaissance, assessed soil properties via laboratory testing, performed hydraulic design calculations, and evaluated stabilization options. Leidos developed restoration designs to prevent erosion, including

- Slope stabilization and channel diversion
- Application of plant and rock material to restore ditches
- A sustainable irrigation system.

For the Cameron Arizona area mines, field support included geologic interpretation of various litho-stratigraphic units. A conceptual site model was ultimately developed for the overall area that included regional and local geology and hydrogeology, uranium mineralization and types of deposits, and environmental risks associated with uranium and its weathering.

Our work led to a better understanding of the mine sites and surrounding areas. Where needed, areas were stabilized using new or accepted engineering methods, thus reducing off-site transport of contaminants, as well as environmental exposure.

With meaningful stakeholder involvement, Leidos follows environmental justice as a principle that combines civil rights with environmental protection.

WHY LEIDOS?

Source control

Leidos thought-leading experts develop strategies, create tools for tracking complex data, and rigorously attend to technical detail.

WHY LEIDOS?

Information Technology

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WASHINGTON STATE DEPARTMENT OF ECOLOGY

Leidos has provided the Washington State Department of Ecology (Ecology) with inventive ideas, a sound technical approach for project execution, and proven past performance as a prime contractor for environmental services since 1984. We have successfully completed more than 200 projects for Ecology, including a series of projects for the Lower Duwamish Waterway (LDW) Superfund Site that focused on identifying and controlling sources of contaminants to LDW sediments.

Assess the problem

EPA added this 5-mile portion of waterway to the CERCLA National Priorities List in 2001, and Ecology added the LDW to their hazardous sites list in 2002. Leidos has provided technical support to source control efforts since 2003. Activities began with review of more than 10,000 documents related to LDW contaminant sources in the 20,000-acre LDW basin. We identified data gaps and developed source control action plans and supporting documents for 18 of 24 source areas. The next step required identifying pathways for contaminants to reach LDW sediments and developing priorities for action items within each source area. This work contributed to Ecology's Source Control Strategy, for which we helped develop tools for documenting and tracking source control status, including an electronic document library for quick and effective response to public disclosure requests and other documentation needs.

Identify contaminant sources

Leidos helped Ecology identify contamination sources by collecting samples, evaluating and mapping data, and modeling analysis. We searched for PCBs in building paint and caulk; sampled stormwater and storm drain solids over three rainy seasons; collected sediment samples next to 84 stormwater outfalls; and sampled soil, groundwater, and seeps at major industrial facilities within the basin. Leidos staff provided technical support to Ecology's site managers for cleanup of 16 contaminated sites along the LDW. Our technical experts performed studies to help prioritize various types of contaminant sources, including air deposition, stormwater drainage, combined sewer discharges, groundwater seepage, direct industrial discharges, building materials, and animals (otter scat and goose droppings). We performed chemical fingerprinting to assess the likely sources of PCBs by examining the variation in distribution of 209 PCB congeners in sediment, surface water, biota, air, soil, and groundwater. Our team uploaded findings into our client's databases and created an atlas containing over 3,000 GIS maps to assist customer decision-making.

Leidos prepared an interpretative data report comparing PCB levels in otter scat from the LDW to other sections of the watershed to understand potential transport of PCBs by wildlife.

Emergency fresh water

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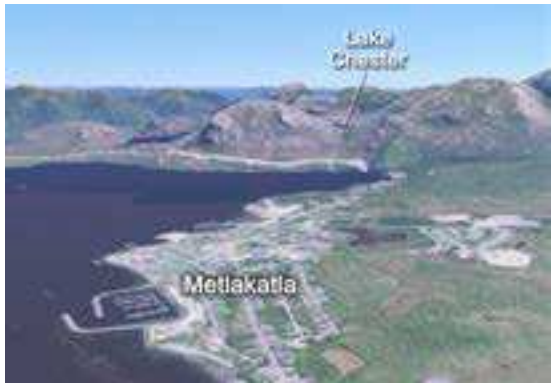
METLAKATLA INDIAN COMMUNITY

The U.S. Department of the Interior manages public lands and minerals and upholds federal trust responsibilities to Native American tribes and Alaskan Natives. The department's Division of Energy and Mineral Development (DEMD) extended Leidos' existing contract to include a project that averted an urgent fresh water shortage faced by a Native American community of 1,500 residents on Annette Island, Alaska.

The protected drinking water source at Chester Lake, constructed and operated by the community, had no significant water quality problems. However by late summer 2015, the Metlakatla Indian Community (MIC) predicted capacities would become inadequate due to a combination of below average snow pack during the previous winter and lack of precipitation in May 2015. This, combined with the fact that the lake provides 30 percent of the community's power via a hydroelectric power plant, resulted in lake levels that were below the accessible elevation. This would affect fresh water availability on the island during the summer of 2016. Raising the existing hydroelectric dam or shipping in fresh water were considered, but both were deemed unfeasible options. A Leidos electrical engineer working on the DEMD contract worked with engineers retained by the MIC to determine that tapping into the existing fresh water body was the only viable solution. In less than a year, DEMD's effort, led primarily by the Leidos engineer, averted the water shortage crisis with what was named the Chester Lake Penstock Extension Project, a $400K project to construct a pipeline supply resource.



Google, IBCAO Data SIO, NOAA, U.S. Navy, NGA, GEBCO

Across rugged terrain, a Leidos engineer was instrumental in designing a sustainable, fresh water solution within a one-year turnaround.

Leidos supports clients with renewable power at population centers to ensure energy supplies remain abundant and at lowest attainable cost.

WHY LEIDOS?

Engineering aspects of pipe transmission

The engineering effort involved using high-density polyethylene pipe to extend the penstock deeper into the lake, allowing the community to access more of its fresh water reserves. This method enabled the current conduit located east of town, which is used to transmit fresh water from Chester Lake, to the community's water treatment plant about a mile away. Project management not only entailed ordering all materials and planning for deployment in this remote region, but also involved working with rugged terrain and working through frequent inclement weather conditions.

Project design incorporated the use of CAD and GIS mapping software. By letter correspondence to DEMD, the community recognized the lead Leidos engineer for his critical assistance.

Complicated requirement for national security

Clients see Leidos as the "go-to" firm for complex environmental challenges because our people, often veterans, respond to mission requirements and timelines.

WHY LEIDOS?

U.S. AIR FORCE

The Nevada Test and Training Range (NTTR) has been our nation's largest interconnected ground and airspace available for military training for more than 65 years. Based on our long partnership, the Air Force chose Leidos to develop a land withdrawal package that includes a Legislative Environmental Impact Statement (LEIS) along with 18 separate supporting reports, ranging from mineral assessments to cultural ethnographic studies.

In addition to the supporting environmental studies, Leidos played a critical role in facilitating dialogue with cooperating agencies, federally recognized tribes, and the public – all who have a stake in NTTR land withdrawal. While the proponents at the NTTR see it as critical to the nation as a military asset, many valued partners manage its natural and cultural resources. These partners or cooperating agencies include the Bureau of Land Management, U.S. Fish and Wildlife Service (USFWS), USACE, and the State of Nevada. Federally recognized tribes also have a role in the management of NTTR lands.

The LEIS included a preferred withdrawal alternative that requested an indefinite withdrawal period and an expansion of lands for the NTTR. Most of the expansion lands were part of the Desert National Wildlife Range (DNWR), one of the largest U.S. wildlife refuges in the USFWS refuge system. Because of the expansion request, the Air Force received more than 33,000 comment letters. The majority of the letters from the public protested the lack of access to a third of the DNWR. Some expressed concern about potential environmental impacts to the lands and wildlife or economic damages (specifically, affects to eco-tourism).

The Leidos team knew at the project outset that the Air Force withdrawal request would not be popular with some groups. However, the team championed the belief that a balance could be developed between the Air Force and the cooperating agencies, and that balance could meet many public concerns.

The result was a complicated LEIS that was delivered to the Air Force on time and within budget. Our success stemmed from an intimate understanding of the NTTR mission, Air Force stakeholders, the NEPA process, external stakeholders, regulators, and the land withdrawal process. Decades of performance as the Air Force's go-to partner for large, complex environmental challenges made Leidos the best value to the Air Force.

Airspace requirements are immense for today's military training. The Air Force turns to Leidos for environmental investigation and reporting that, at NTTR, was the basis to ask Congress to extend and expand their space.

Information Technology

Energy

Environmental

Engineering

Infrastructure

Infrastructure and specialized services

Information Technology

Energy

Environmental

Engineering

Infrastructure

U.S. DEPARTMENT OF ENERGY

Leidos is serving one of the world's largest nuclear cleanup efforts, dealing with the legacy of supporting nuclear weapons production at the DOE Hanford Site in south-central Washington. With Leidos as the largest partner, the team known as Hanford Mission Integration Solutions (HMIS) maintains and operates Hanford's infrastructure at the site that covers almost 600 square miles. The Hanford site, larger than the city of Los Angeles, includes hundreds of buildings and nine decommissioned nuclear reactors.

Today, more than 11,000 workers remain active on the Hanford Site, and investment in the infrastructure is necessary to support ongoing cleanup and remediation efforts.

Leidos manages not only the water, power, sewer, security, and fire protection infrastructure of a large community, it also provides specialized services, including cranes and rigging, fleet maintenance, emergency response, environmental sustainability, long-term stewardship, and transportation. HMIS has established holistic measures to forecast system health, which has significantly improved reliability. This ensures essential capacities of water, electricity, telecommunications, and transportation shared across five prime contractors and two DOE Field Offices are met.

"Much of the work is highly customized," said Robert E. Wilkinson, Leidos President of HMIS. "Our scope enables us to support the contractor in executing their cleanup mission. If they need a road, we build it; if they need a certain information technology solution, we provide it – leveraging our know-how and technology to both keep employees safe and drive out cost, where possible."

We are good at gaining insights from data to provide asset management analytics and data-driven decisions, allowing operations to run smoothly with less risk.

WHY LEIDOS?

First-of-its-kind DOE contract strategy

Since the contract began in 2009, cumulative cost savings have exceeded $735 million. "We are able to save the government a significant amount of money through economies of scale, services on-demand, and integration of technology innovations," Wilkinson said.

Several best practices have been recognized

- Integrating cleanup across Hanford for new levels of information transparency and accelerated decision-making
- Matching supply with demand from proven business systems that offer firm fixed price, fixed unit price, and usage-based services
- Providing a single, integrated mission system that supports multiple prime contractors
- Forecasting of services to trend customer needs
- Achieving federal goals using proven methodology to contract with small businesses.

At Hanford, Leidos leads HMIS, the integrated multi-contractor team, to ensure cleanup workers have the tools, training materials, and a training facility to get the job done – safely and cost effectively.

Our Company

Leidos is a Fortune 500® information technology, engineering, and science solutions and services leader working to solve the world's toughest challenges in the defense, intelligence, civil, and health markets. We are a $12.3B company that employs approximately 42,000 of the nation's leading scientists, technologists, world-recognized subject matter experts, patent holders, inventors, military veterans, and former high-ranking government officials. The company is headquartered in Reston, Va., and conducts business from 350 sites worldwide with offices in 29 countries. Leidos is continuously recognized for our high standard of ethics, top-quality work, and exceptional staff of almost 9,500 employees holding advanced degrees, more than 13,000 holding government security clearances, and approximately 8,500 military veterans.

FOR MORE INFORMATION

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