THE ERDC R&D STRATEGY

CONNECTING THE DOTS TO INNOVATION

ERDC
ENGINEER RESEARCH & DEVELOPMENT CENTER

R&D STRATEGY FOR THE

US ARMY ENGINEER RESEARCH AND DEVELOPMENT CENTER

FOREWORD

The Engineer Research and Development Center (ERDC) Board of Directors establishes the organization's vision, mission, values and strategy. The strategy is determined by our vision and mission; it is guided by our values; and it is influenced by key national priorities and needs.

This strategy is written for you, the ERDC team. We, the Board of Directors, want you to understand where we are headed in research and development (R&D) so we can all work together to accomplish our mission and excel in making an impact to the Nation.

ERDC's research priorities are aligned with the R&D priorities established by the U.S. Army Corps of Engineers (USACE) Commanding General (CG), who is committed to amplifying the performance of USACE through innovation and advanced technology. The CG recognizes that the advancements produced by R&D will deliver the best solutions to these challenges, quickly and safely, and at the lowest possible cost.

USACE has provided engineering solutions to the Nation's toughest problems since the Revolutionary War, always matching its response to evolving challenges. Since 1929, USACE has relied upon its research laboratories, combined and established as the ERDC in 1999, to solve the Nation's most daunting issues using innovative, interdisciplinary approaches. As part of the Engineer regiment, we seek to be the "go-to" science and engineering organization for the Nation, for our military, and for the public good.

Although today's obstacles and those of the future are unprecedented, making great strides is not new to ERDC. Our laboratories have navigated many crises, and helped to avoid others, by discovering, developing, and delivering innovative and practical results.

We succeed because of our advanced research facilities and capabilities; our extensive experience and history in providing answers; our partnerships across the DoD, other agencies, industry and academia; and primarily because of YOU, who are experts in your fields. ERDC functions as a world-class organization because of the jobs you do—administrative, managerial, operational, support, and technical. Everyone's contributions make high performance possible.

We succeed because you act boldly to make a difference in the lives around you. You pursue excellence and go for game-changing results. You strive to make an impact, and you build relationships to deliver the solutions. These are the reasons why we will continue to be extraordinary as we work to make our world safer and better.

ERDC Board of Directors,

Dr. David Pittman
Director

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Deputy Director

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Commander

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Director, CERL

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Dr. Edmond J. Russo, Jr.
Director, EL

Dr. David Hibner
Director, GRL

Bartley P. Durst
Director, GSL

Dr. David Horner
Director, ITL

OUR VISION

To be a world-class research and development partner delivering solutions not otherwise possible

OUR MISSION

We discover, develop, and deliver trusted engineering and scientific solutions for the warfighter and the Nation

OUR CORE VALUES

ACT BOLDLY
to make a difference in the lives around you

PURSUE EXCELLENCE
and go for the game-changing solutions

WORK INSPIRED
to make an impact and build relationships to deliver the results

OUR MOTTO

"WE **DISCOVER, DEVELOP,** AND **DELIVER** NEW WAYS TO **MAKE THE WORLD SAFER** AND **BETTER** EVERY DAY."

STRATEGY IMPLEMENTATION

ERDC has developed this strategy to define our goals and path forward. Its primary purpose is to align ERDC's research and development goals with those of the USACE, Army, DoD, and the Nation and to provide clarity on the following:

+ ERDC's vision, mission and governing values. The Board of Directors carefully selected these words to provide intent that permeates the operation of our laboratories; the management and execution of our programs; and the care that we take with our partners and stakeholders • **Page 4**

+ Where we are today. ERDC's past and present have established a strong foundation for the future • **Page 6—7**

+ A summary of the most pressing research and development priorities. The goal of our strategy is to find practical answers in these R&D priority areas • **Pages 9—11**

+ How ERDC is organized and managed to achieve our objectives. We use Research and Development Areas (RDAs) as the primary structure of how we execute work • **Pages 13—15**

+ Strategic steps toward achieving our goals. These steps will give overarching direction to the ERDC enterprise as we work together to accomplish our mission • **Pages 17—19**

ERDC
ENGINEER RESEARCH & DEVELOPMENT CENTER

VICKSBURG, MISSISSIPPI

- CHL — Coastal & Hydraulics Laboratory
- EL — Environmental Laboratory
- GSL — Geotechnical & Structures Laboratory
- ITL — Information Technology Laboratory
- EXO/IOC — Executive Office and Installation Operations Command

CHAMPAIGN, ILLINOIS

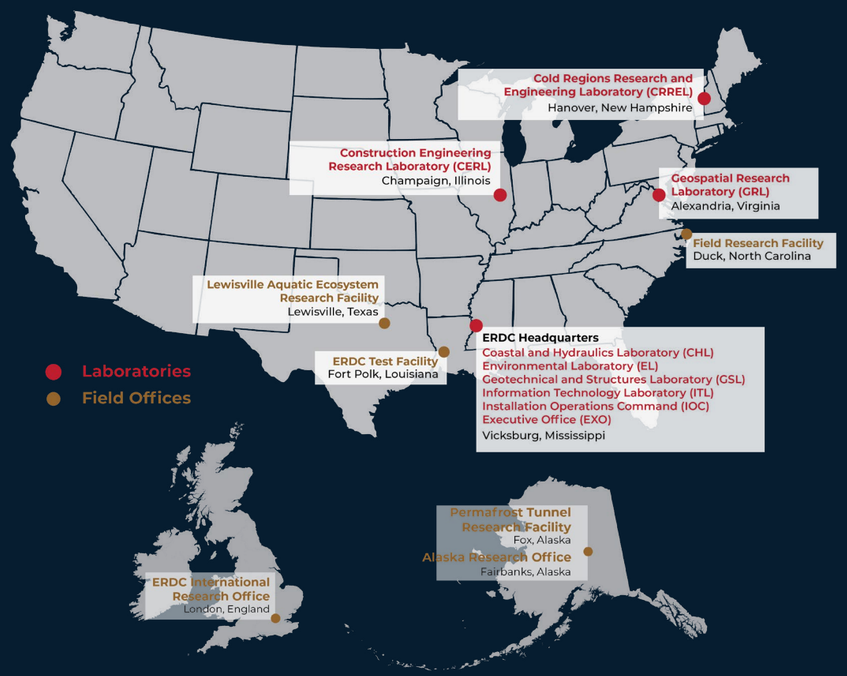
- CERL — Construction Engineering Research Laboratory

HANOVER, NEW HAMPSHIRE

- CRREL — Cold Regions Research and Engineering Laboratory

ALEXANDRIA, VIRGINIA

- GRL — Geospatial Research Laboratory



ARMY S&T ENTERPRISE

POLICY, BUDGET AND OVERSIGHT

SECRETARY OF THE ARMY

UNDER SECRETARY OF THE ARMY

Assistant Secretary of the Army for Acquisitions, Logistics and Technology (ASA(ALT))

Deputy Assistant Secretary of the Army for Research and Technology (DASA(R&T))

OPERATIONAL AND S&T PROGRAM EXECUTION

Army Futures Command (AFC)
- Medical Research and Development Command (MRDC)
- Army Artificial Intelligence Integration Center (AI2C)
- Combat Capabilities Development Command (DEVCOM)

U.S. Army Corps of Engineers (USACE)

ERDC

Engineer Research and Development Center

U.S. Army Space and Missile Defense Command (SMDC)
- Space & Missile Defense Command Technical Center (SMDC TC)

Headquarters, Department of the Army (HQDA) G-1, Personnel
- U.S. Army Research Institute for Behavioral and Social Sciences (ARI)

Non-Traditional Laboratories
- Army Cyber Capabilities Development Integration Directorate
- Joint Program Executive Office for Chemical, Biological, Radiological and Nuclear Defense (JPEO CBRND)
- U.S Army Training and Doctrine Command (TRADOC) Army Medical Center of Excellence (MEDCoE)
- U.S. Military Academy
- Army Cyber Command (ARCYBER) Technical Warfare Center
- Deputy Under Secretary of the Army, Army Analytics Group (AAG)

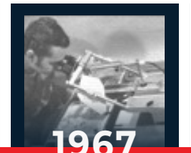
- CRREL — Cold Regions Research and Engineering Laboratory
- CERL — Construction Engineering Research Laboratory
- GRL — Geospatial Research Laboratory
- CHL — Coastal and Hydraulics Laboratory
- ITL — Information Technology Laboratory
- EL — Environmental Laboratory
- GSL — Geotechnical and Structures Laboratory

OUR HISTORY

1927
Flood of 1927
Origin of CHL

1932
WWII Portable Airfields
Precursor to GSL 1932

1961
Arctic Research
Origin of CRREL in 1961



1967
Topographical Engineering
Origin of GRL in 1967

1968
Construction Engineering Research
Origin of CERL in 1968

1970s
Environmental Research
Origin of EL in 1970s

1980s
First Supercomputer
Origin of ITL in 1980s

ERDC
ENGINEER RESEARCH & DEVELOPMENT CENTER

1999
ERDC Established

Milestone Work

2001 *ERDC research saves lives during 9/11*
2005 *Post-Katrina Analyses*
2017 *Hurricane Recovery (Harvey, Irma & Michael)*
2020 *Covid-19 Pandemic Response*

WHERE WE ARE TODAY

ERDC is the second-largest Army research and development organization of the USACE in terms of its Army Science and Technology (S&T) program execution.

ERDC consists of seven laboratories and a command/executive office, employing more than 2,300 federal employees and hundreds of contractors. As one of four S&T labs in the DoD, ERDC boasts a team with leading experts in their fields, and each of our laboratories offers compelling expertise in its primary areas of research. These laboratories and their people routinely join efforts, providing ERDC an exceptionally powerful advantage in tackling our Nation's toughest engineering projects across its civil and military portfolio.

From its earliest days of hydraulics experiments along the Mississippi River, ERDC has grown its R&D, along with its campuses, buildings, and capabilities.

Today, ERDC's facilities and people are a laboratory for the Nation, providing R&D that supports the delivery of projects and programs for federal, state, and local agencies, as well as the private sector, academic, and international partners. By aligning ERDC's research with USACE R&D priorities, we can target investment to create a force-multiplier effect that benefits all stakeholders.

The ERDC team is passionate about making a difference. Our historic and current status as a leading R&D organization, our world-class facilities and field sites across the United States, and our ability to assemble multi-disciplinary teams of leading experts enables us to effectively tackle the R&D challenges of the present and future.

TOP 10 R&D PRIORITIES

The Nation faces tough problems at home and abroad, including geopolitical issues, water security, climate change, and aging infrastructure, which have compounding effects on security, communities, economy, safety, and the environment. Building Strong for success today and in the future demands proactive innovation and strategic investment in interdisciplinary research and development. The Top 10 R&D Priorities identified below represent long-term goals as ERDC supports the USACE mission and its many partners and stakeholders. They represent critical areas of need where ERDC can provide the greatest value to the Nation with innovative science and engineering.

ERDC's R&D priorities are aligned with the key interests of our government and stakeholders. They respond to national priorities ranging from the National Defense Strategy, Army Modernization Strategy, and Army Installation Strategy to the US Cyber Security Strategy, DoD Arctic Strategy, and, most importantly, the USACE R&D Strategy.

MITIGATE AND ADAPT TO CLIMATE CHANGE

Climate change and extreme weather are pervasive existential threats requiring innovation and mobilization on an unprecedented scale. As a world-class engineering organization, ERDC contributes science and technology that are key to any national response to climate change. This includes developing methods and techniques to assess DoD and national vulnerabilities to climate-change effects; accelerating the Nation's transition to renewable and zero-carbon energy; sequestering greenhouse gas emissions; developing and executing projects to protect our warfighters; defending communities from the impacts of extreme weather; and improving our Nation's understanding of, and adaptation to, risks and hazards of changing climates.

WIN FUTURE WARS

The military must be prepared to conduct Combined All Domain Operations. New technologies have changed the character of war—future conflicts will occur at a longer range and greater speed than ever before. American warfighters must possess situational understanding and be sufficiently agile to rapidly respond to evolving threats from increasingly advanced adversaries. ERDC's strong foundation in geospatial research, military engineering, environmental characterization, and advanced modeling and simulation will provide the DoD with new tools and capabilities to ensure our armed forces maintain overmatch and battlefield superiority. No other organizations can assemble the same set of capabilities to support this need.

MODERNIZE OUR NATION'S INFRASTRUCTURE

Aging systems are threatening our Nation's infrastructure. Dams, levees, and other civil and military structures are at or beyond their original life expectancy, exacerbated by climate change, population growth, and other stressors. ERDC will develop new materials and practices, advanced maintenance and construction techniques, new structural designs, innovative data capture analysis, techniques and tools, computer models, and other methodologies to ensure America's civil and military infrastructure is resilient, safe, affordable, and supports the demands of tomorrow.

SUPPORT RESILIENT COMMUNITIES

Communities with increasingly complex needs are facing growing hazards (storm surge, floods, droughts, wildfires) that might affect local and regional commerce, ecosystem health, human health and well-being, water supply, transportation, and other community functions. ERDC R&D will support resilient communities by providing open-access data and technologies to quantify present and future hazards and evaluate alternatives to address community goals while meeting national goals such as environmental justice and social equity. ERDC will leverage public-private partnerships to discover, develop, demonstrate, and transition technologies to communities that deliver solutions faster and with greater accuracy. We will bring together complementary disciplines to solve problems that have local, regional, national, and global ramifications.

ENABLE SMART AND RESILIENT INSTALLATIONS

The Army relies on a complex system of capabilities, centered on people and equipment but supported in critical ways by its installations. In addition to maintenance requirements, installations also must be made more resilient to meet the needs of constantly changing missions and threats. ERDC will develop advanced technologies and analytical capabilities in facilities and support infrastructure, integrating "smart" features that increase efficiency; enhance soldier and family well-being; and save money, water and energy while making installations more resilient to risks and hazards.

ENSURE ENVIRONMENTAL SUSTAINABILITY AND RESILIENCE

In addition to leading ecosystem restoration activities – including plant and wildlife species — USACE supports communities, commerce, and the DoD through its other mission areas while minimizing potential harm to the environment. ERDC is a key component for developing design guidelines and techniques for executing projects that maximize benefits to the environment. ERDC will continue to develop innovative technologies and approaches that improve and sustain the health and resilience of ecosystems while also supporting the warfighter and our civil works mission.

SECURE RELIABLE INSTALLATION ENERGY

Energy transformation is a cornerstone of adapting to climate change. Military installations and missions must redesign their energy systems and move from carbon-intensive fuels toward zero-carbon energy while increasing resilience and grid independence. As hazards like extreme heat, hurricanes, winds, and ice storms intensify and test the strength of power-generation assets and electrical grids, ERDC will develop technology and applications that are cyber-secure, renewable, and provide smart, resilient energy for Army installations. This will improve national security and contribute to the health and resiliency of the Nation's energy infrastructure.

REVOLUTIONIZE AND ACCELERATE DECISION-MAKING

ERDC will seize the opportunity to revolutionize and accelerate current and future decision-making to respond to increasingly complex challenges. Decision-makers must use timely, discoverable, and reliable datasets to understand connections between societal and environmental threats and impacts on operational capabilities faster and more accurately than ever before. ERDC will develop decision-support solutions powered by advances in big-data analysis, machine learning, artificial intelligence, computer simulations, autonomy, and robotics to enable fast, informed, and effective decisions that mitigate risks and deliver actionable information.

IMPROVE CYBER AND PHYSICAL SECURITY

Terrorists and adversaries long have recognized the devastating impacts of shutting down our Nation's critical infrastructure, and the severity and frequency of this type of risk is increasing. These threats go beyond physical incidents to include sophisticated, equally disruptive cyber-attacks. Through innovations in risk detection, mitigation, and reduction, ERDC will develop the technologies that ensure critical infrastructure remains safe and meets the needs of civilians and the military alike.

PROTECT AND DEFEND THE ARCTIC

The Arctic is a geostrategic region undergoing significant environmental and geopolitical change. As Arctic ice melts, competition for resources and influence in the region increases. ERDC will lead science and technology developments to help the USACE, Army, and DoD understand and adapt to changes in permafrost, snow and sea ice cover, and ecosystem changes. ERDC will lead the development of science and engineering solutions promoting mission resilience, military operations, and navigation across polar regions.

SCAN FOR MORE ON USACE R&D PRIORITIES

ERDC is a complex and multi-faceted organization, with thousands of concurrent initiatives—large and small—that focus on the results our partners and stakeholders care about. Our people, programs, and facilities are powerful investments that serve the ever-changing needs of our mission and the missions of those we serve. We evolve with those needs—and this strategy exemplifies that.

"**ERDC LABORATORIES**, WHICH HOUSE OUR PEOPLE AND FACILITIES, COMBINE WITH OUR PROGRAMS MANAGED THROUGH THE RDAS TO CREATE A UNIQUE RESEARCH CAPABILITY TO SUPPORT THE TOP TEN RESEARCH AND DEVELOPMENT PRIORITIES AND **DELIVER OUR MISSION**."

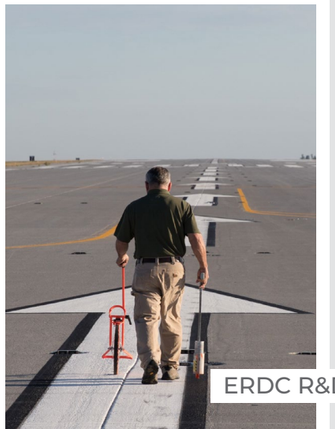
DAVID W. PITTMAN, PE, PHD, SES
CHIEF SCIENTIST AND DIRECTOR OF R&D, U.S. ARMY CORPS OF ENGINEERS
DIRECTOR, U.S. ARMY ENGINEER RESEARCH AND DEVELOPMENT CENTER

OUR STRUCTURE

ERDC operates as a matrix organization, executing research programs by leveraging competencies across our laboratories to ensure the best possible solutions are discovered, developed, and delivered to our partners and stakeholders. ERDC's research and development priorities require multidisciplinary approaches; therefore, enterprise collaboration is crucial to mission success.

ERDC manages and executes major R&D programs through five Research and Development Areas (RDAs), which intersect the organizational structure of ERDC's seven laboratories. RDAs ensure enterprise collaboration and pool multi-laboratory expertise to address specific problems and stakeholder communities. RDAs have an important responsibility for development, management, and execution of ERDC's direct (Army HQ-funded) programs, but the RDAs also may assist in development and oversight of reimbursable (partner-funded) programs and projects.

The five ERDC RDAs are Military Engineering, Civil Works, Installations and Operational Environments, Geospatial Research, and Engineering and Engineered Resilient Systems. Each RDA is led by an ERDC Laboratory Director, supported by a Lead Technical Director, other technical directors, and their staffs. Each RDA is described on Page 14 and 15.

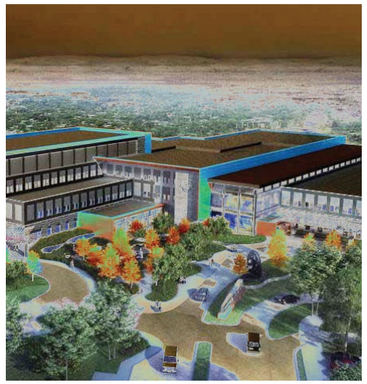


R&D AREAS

Military Engineering. The Military Engineering (ME) RDA provides solutions, technology, and capabilities to the warfighter, enabling force protection, projection, maneuver, and maneuver support for Multi-Domain Operations (MDO). The ME RDA is the leader in developing novel, lightweight, rapidly constructed force protection and projection systems that can be expediently deployed in remote locations. Research in this field leverages expertise in blast and weapons effects to help develop more powerful weapons and to protect structures and fixed facilities from a range of manmade threats. Research and development of innovative protection systems has produced survivability decision aids that allow rapid assessment of current protection postures and provide enhanced designs to increase defense against attacks.

Civil Works. The Civil Works (CW) RDA provides methods, tools, and technologies that allow the USACE to be innovative and efficient in its water resource missions. The CW RDA serves primary water resource missions of navigation, flood-risk management, and environmental sustainability and supports missions including hydropower, water supply, recreation, and regulatory. The CW RDA's state-of-the-art technologies address life-cycle planning, engineering, design, and maintenance requirements to reduce risk, improve ecosystems, ensure community resilience, and deliver national economic benefits, all enabled through a holistic approach that leverages partnering. In the face of climate change, invasive and nuisance species, demographic shifts, and aging infrastructure, ERDC R&D helps the USACE and its partners anticipate and plan for rapid decision-making to meet the water resources needs of future generations.

Installations and Operational Environments. The Installations and Operational Environments (IOE) RDA provides cutting-edge solutions for Army installations, training ranges, and contingency basing, as well as applies its knowledge to the warfighter's environment in theater. The IOE RDA is focused on environmental and energy sustainability, resilience, and security. Additionally, IOE generates new capabilities for smart installation infrastructure. Research conducted by the RDA includes understanding the environment for the warfighter; detecting hazards before they can harm our soldiers; and mitigating negative impacts on soldiers and operations in urban landscapes, industrial complexes, and subterranean spaces.



Geospatial Research and Engineering. The Geospatial Research and Engineering (GRE) RDA develops and demonstrates mapping, geospatial analysis, and mission-planning technologies to ensure superior situational awareness of the operational environment for the warfighter and to enable Mission Command. GRE research enhances unit and individual soldier performance with greater situational awareness, mission-planning courses of action, options for movement and maneuver, and protection. To support MDO, GRE research focuses on activities that merge intelligence preparation of the operational environment with geospatial mapping and analysis and map-based mission planning, all paced with the convergence and transformation of the Army's Mission Command systems.

Engineered Resilient Systems. The Engineered Resilient Systems (ERS) RDA combines advanced engineering techniques with the DoD's high-performance computing capabilities to develop concepts and tools that significantly amplify design options examined during the early stages of the DoD weapons system acquisition process. The ERS RDA efforts span all four DoD services, and methods have been effectively applied to analyses of fixed-wing planes, rotorcraft, ground vehicles, and ships. Innovative research includes advanced tradespace analytics tools that can compare millions of potential design options and associated performance characteristics in hours rather than months. The speed of comparison enables more robust designs to be considered in the engineering phase than traditional methods have allowed. Through these technologies and many other advancements in high-performance computing and data analytics, the ERS RDA enables physics-based assessments much more rapidly than ever before to ensure DoD acquisition time and money is well spent.

"WE WILL NOT "BUILD OUR WAY OUT" OF THE CHALLENGES THAT WE FACE - WE HAVE TO

THINK, INNOVATE, & ENGINEER

OUR WAY OUT. TO DO THAT, WE'LL NEED NEW, IMPROVED, AND,
IN SOME CASES, YET-TO-BE-DISCOVERED TOOLS AND TECHNOLOGIES THAT

ONLY A ROBUST & RESPONSIVE R&D PROGRAM CAN DELIVER."

LTG SCOTT A. SPELLMON
55TH CHIEF OF ENGINEERS
COMMANDING GENERAL, USACE

"THE ARMY'S FUTURE SUCCESS RELIES ON **STRATEGICALLY FOCUSED RESEARCH AND DEVELOPMENT (R&D)**, INNOVATION, AND PARTNERSHIPS. R&D IN KEY FOCUS AREAS INCLUDING ASSURED POSITIONING, NAVIGATION AND TIMING, SYNTHETIC TRAINING ENVIRONMENTS, ELECTRONIC WARFARE, SENSING/INTEL, AND CONTESTED LOGISTICS/SUSTAINMENT IS CRITICAL TO ENSURING THAT THE ARMY CAN CONTINUE TO OPERATE AND DOMINATE IN COMPLEX ENVIRONMENTS. BY MAINTAINING A **WORLD-CLASS** LABORATORY SYSTEM AND WORKFORCE, THE ARMY SCIENCE AND TECHNOLOGY ENTERPRISE PARTNERS WITH THE BEST RESEARCHERS IN AMERICAN ACADEMIA AND ALLIED NATIONS."

THE HONORABLE DOUGLAS R. BUSH, ASA (ALT)

"[WE WILL] UPGRADE THE NATION'S WATERWAYS AND PORTS TO STRENGTHEN SUPPLY CHAINS AND ECONOMIC GROWTH; BUILD INNOVATIVE, CLIMATE-RESILIENT INFRASTRUCTURE TO PROTECT COMMUNITIES AND ECOSYSTEMS; MODERNIZE CIVIL WORKS PROGRAMS TO BETTER SERVE THE NEEDS OF DISADVANTAGED COMMUNITIES; **INVEST IN SCIENCE, RESEARCH, AND DEVELOPMENT TO DELIVER ENDURING WATER-RESOURCE SOLUTIONS**; AND STRENGTHEN COMMUNICATIONS AND RELATIONSHIPS TO SOLVE WATER RESOURCE CHALLENGES."

THE HONORABLE MICHAEL L. CONNOR, ASA (CW)

"**RESEARCH AND DEVELOPMENT** SUPPORTING ENERGY DEMAND REDUCTION, ENERGY RESILIENCE, WATER USE PRACTICES, NATURAL RESOURCE MANAGEMENT, SUSTAINABLE CONSTRUCTION, AND NATURAL INFRASTRUCTURE **ARE ALL CRITICAL TO BUILDING A MORE RESILIENT ARMY.** COMBINING EMERGING TECHNOLOGIES WITH LIVE DATA ALLOWS OUR **WARFIGHTERS** TO MAKE REAL-TIME DECISIONS, GIVING THEM THE TACTICAL ADVANTAGE THEY NEED TO **OPERATE IN A CONTESTED ENVIRONMENT, MITIGATE THE IMPACTS OF CLIMATE CHANGE, AND ENHANCE ARMY READINESS.**"

THE HONORABLE RACHEL JACOBSON, ASA (IE&E)

OUR PLAN FOR SUCCESS

This section defines the strategic steps necessary to operationalize the ERDC R&D Strategy. Aligned with the USACE R&D strategy as interpreted by ERDC leadership, these steps will guide each ERDC research priority in contributing to a bold and disciplined research and development program that best positions ERDC to remain a global science and engineering leader.

1. Continuously Examine Future Challenges for Research Needs

A strategic ERDC R&D program will anticipate future challenges, adapt to changing requirements, identify the science and technologies needed to satisfy them, and scale capabilities for widespread application across our mission space.

The ERDC will pursue challenge-focused R&D. We will use existing approaches and develop new approaches to solicit from our workforce and partners new solution ideas in the research priority areas. These investments will improve how the Nation innovatively responds to complex 21st-century issues. Success will be measured not only by how effectively and efficiently advanced capabilities enable partners and stakeholders to achieve their objectives, but also by how broader social, economic, and environmental benefits support the advancement of national priorities.

Challenge-focused R&D begins with priorities based on today's greatest engineering problems. The ERDC, with its partners and stakeholders, will regularly reevaluate the biggest known and emerging challenges facing the Nation to initiate the discovery, development, and delivery of new solutions.

2. Focus on Collaborative Application of R&D Across Programs, Mission Areas, and External to USACE

In looking over the horizon to anticipate challenges, the ERDC workforce will work with USACE, external partners, and stakeholders to identify research requirements to meet coming challenges and collaborate on solutions. Proven technologies will be tested and applied in other applicable contexts to maximize efficiency and extend the reach of scientific and technological advancements.

Successful collaboration that advances science and technology is often at the researcher-to-researcher or researcher-to-practitioner level. Through a coordinated ERDC R&D program supported by both laboratories and RDAs, we will develop the structure to build on successful relationships and institutionalize collaboration that sustains professional networks and capabilities and further accelerates the development and application of science and technological advancements.

OUR PLAN FOR SUCCESS

3. Encourage Broad Engagement and Leadership in the R&D Community
As a world-class science and engineering organization, ERDC is uniquely positioned to serve as a global science and engineering innovator in research and development. Engagement in the R&D community at large allows ERDC and its partners to benefit from and adapt innovations from across the public, private, and academic sectors. This collaboration capitalizes on each partner's strengths, such as scientific or technical expertise, access to resources, flexibility, and available technology.

As members of the ERDC team, we will intentionally pursue opportunities to bring ERDC's capabilities to the table in discussions with leaders from USACE and other organizations to identify and solve short- and long-term challenges. We will continue using designated ERDC liaisons assigned to other partner organizations. As part of our USACE mission, an ERDC liaison is assigned to every USACE District and Division; we also have liaisons with several critical Army and Army Engineer organizations, as well as our Combatant Commands.

Information and requirements derived from the collaborative interactions of our leaders and liaisons will be contributed to the planning process for future R&D.

4. Pursue a Whole-Of-Government Approach
A whole-of-government response—such as the call to address the existential challenge of climate change—is essential to addressing the great needs of today and tomorrow. ERDC will collaborate across the federal government to combine the USACE mission with other disciplines and agencies' missions to create innovative, integrated solutions to our national challenges.

To meet the scale of the challenges, collaboration must become faster and nimbler across the federal government, state governments and other partners. ERDC will contribute to integrated science and engineering solutions but will also develop processes, governance, and communications that will speed collaboration and implementation.

IMPLEMENTING THE STRATEGY

The following tenets are a launching point for implementation of this strategy and will provide specific and measurable actions we will take toward our goals.

As an ERDC team, we will:

+ Hire the best people with the right skills to accomplish our mission.
+ Pursue ever greater levels of organizational efficiency and effectiveness.
+ Develop balanced direct and reimbursable programs and focus on the science and technologies that will satisfy our R&D priorities.
+ Expand the use of designated ERDC liaisons assigned to our key partner organizations.
+ Develop and maintain world-class facilities.
+ Deliver high-impact, world-class products on time and on budget.
+ Use high-quality processes and systems for business intelligence and operations.
+ Provide clear, consistent, one-voice messaging across and beyond the enterprise.

As our values state, we will act boldly to make a difference in the lives around us. We will continue to pursue excellence and go for game-changing solutions. We will work inspired to make an impact and build relationships to deliver the results.

ERDC is uniquely positioned: Its labs, RDAs and mission are perfectly aligned with stakeholder needs, not replicated elsewhere, and purpose-built to help solve the multi-dimensional issues that are increasingly affecting our world and military.

To achieve our vision and mission, we will maintain our status as a world-class research and development partner making the world safer and better for the warfighter and the Nation by discovering, developing, and delivering trusted engineering and scientific solutions.

US Army Corps of Engineers®

ERDC

R&D STRATEGY FOR THE US ARMY ENGINEER RESEARCH AND DEVELOPMENT CENTER

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14. ABSTRACT

The Engineer Research and Development Center (ERDC) Board of Directors establishes the organization's vision, mission, values and strategy. The strategy is determined by our vision and mission; it is guided by our values; and it is influenced by key national priorities and needs.

15. SUBJECT TERMS
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Strategic planning

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