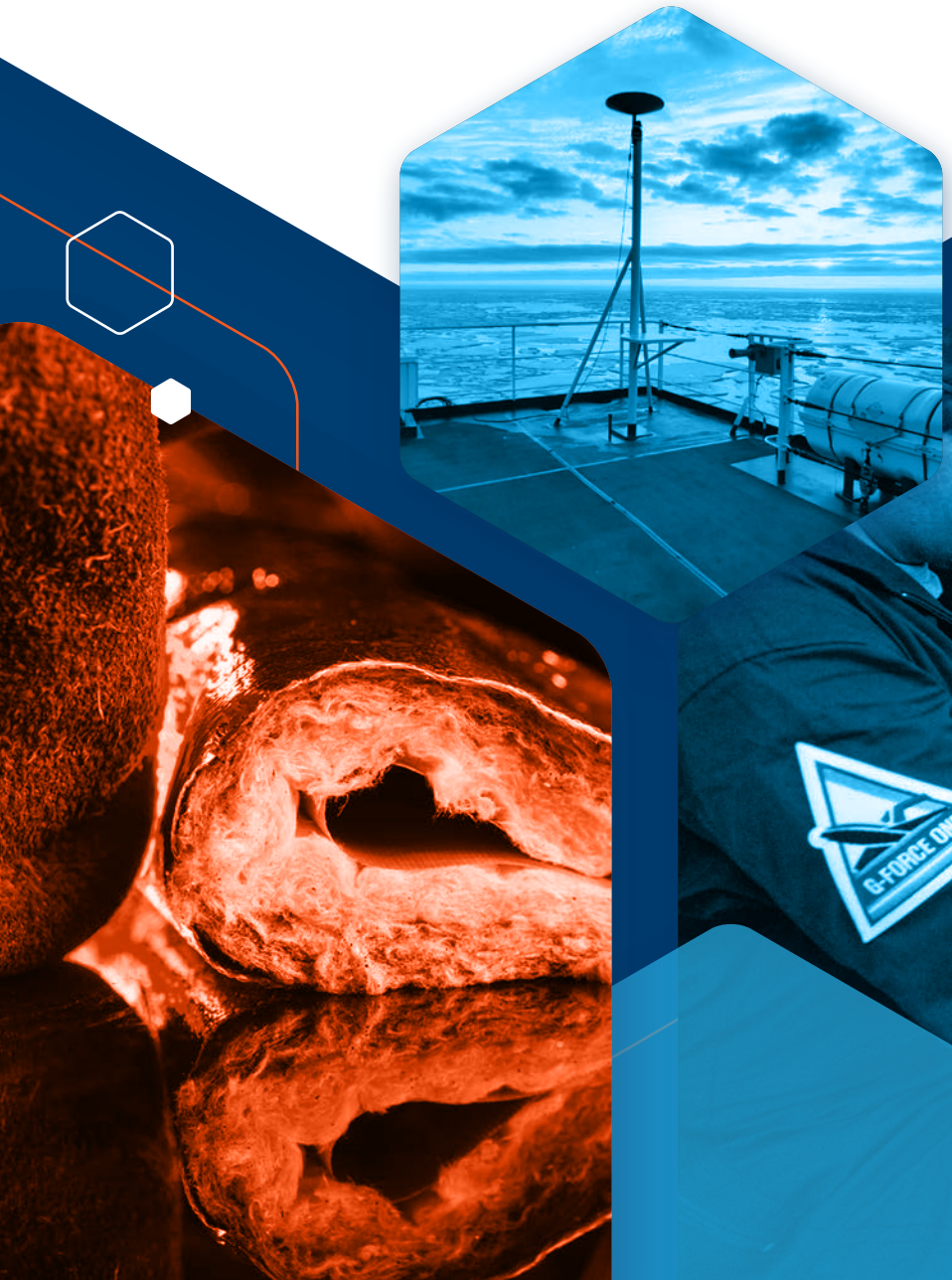
2025

FEDERAL R&D IN PICTURES

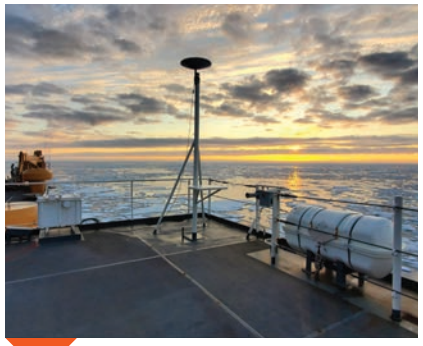


FLC

Federal Laboratory Consortium
for Technology Transfer

2025 PLANNER AT A GLANCE

DECEMBER 2024

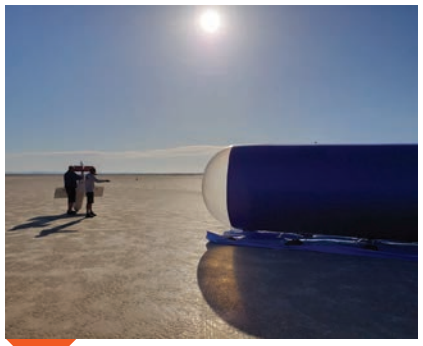


JANUARY 2025

FEBRUARY

MARCH

APRIL



MAY

JUNE

JULY

AUGUST

SEPTEMBER

OCTOBER

NOVEMBER

DECEMBER 2025

JANUARY 2026

LAB TECH EXTRAS

There were too many stunning photos to fit into just 14 months. Check out the Lab Tech Extras section following January 2026 for bonus photos of more innovative federal technologies.

....and more!

LEARN MORE *about the featured labs and technologies in the Laboratory Directory on the last page.*

ABOUT THE FLC

The Federal Laboratory Consortium for Technology Transfer (FLC) is a nationwide network of over 300 federal laboratories, agencies and research centers that fosters commercialization best practices and opportunities for accelerating technologies from federal labs into the marketplace. The American taxpayers invest in research and development (R&D) at our national laboratories, which has spurred scientific and technological breakthroughs that return dividends for our economy. New industries, businesses and jobs are created when technology transfer (T2) is introduced to the marketplace.

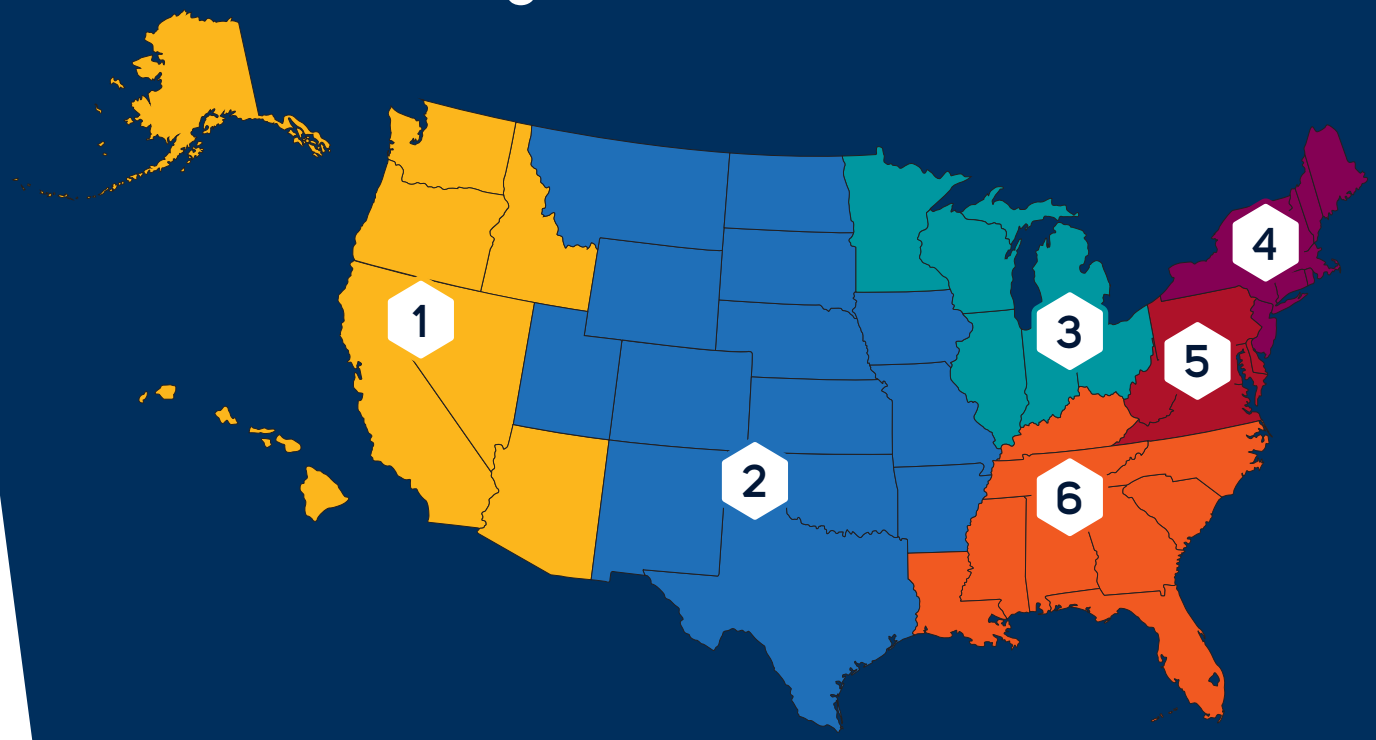
The FLC's mission is to support federal laboratories in maximizing the impact of technology transfer for the benefit of the United States. The FLC provides resources including education, training, tools and services that help federal labs create partnerships, navigate the commercialization process and succeed in the market.

By serving as the touchpoint for T2 communication, education, tools and services, the FLC plays a central role in supporting the skilled T2 workforce that our country desperately needs. These highly motivated T2 professionals are the driving force behind federal labs' ability to effectively partner with the private sector. The FLC strives to support the dedicated individuals who make up the federal laboratory system by continuing to serve as a gateway for industry, government and academia to access R&D to stimulate our nation's economic health.

@federallabs

FLC
Federal Laboratory Consortium for Technology Transfer

FLC Regions



1 Far West
Regional Coordinator:
Kimberly Minafra
National Aeronautics and Space Administration
Ames Research Center

2 Mid-Continent
Regional Coordinator:
Andy Myers
Kansas City National Security Campus

3 Midwest
Regional Coordinator:
Annie Bullock-Yoder
Naval Surface Warfare Center, Crane Division

4 Northeast
Regional Coordinator:
David Lee
U.S. Army Combat Capabilities Development Command Armaments Center

5 Mid-Atlantic
Regional Coordinator:
Amanda Corbel
Frederick National Laboratory for Cancer Research

6 Southeast
Regional Coordinator:
Sharon Soucek
National Institute of Environmental Health Sciences

Photo credit: © Sophia Espinosa-Morales
U.S. Army Corps of Engineers

First All-Electric Utility Task Vehicle Empowers Sustainability R&D

The first all-electric Stag Utility Task Vehicle (UTV) is a direct result of a Cooperative Research and Development Agreement between Volcon and the U.S. Army Engineer Research and Development Center's (ERDC) Construction Engineering Research Laboratory. ERDC's Contingency Basing Integration Training and Evaluation Center will put the Stag into operational use, collecting data and evaluating power grid requirements for electrical equipment and soldier support. The collaboration between ERDC and Volcon exemplifies a mutually beneficial partnership focused on enhancing electric vehicle capability for military and private sector applications.

ERDC
ENGINEER RESEARCH & DEVELOPMENT CENTER

CERL
CONSTRUCTION ENGINEERING RESEARCH LABORATORY

DECEMBER 2024

FLC
Federal Laboratory Consortium for Technology Transfer

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SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12 Anniversary of Bayh-Dole Act	13	14
15	16	17	18	19	20	21
22	23	24	25 Start of Hanukkah Christmas	26 Start of Kwanzaa	27	28
29	30	31 New Year's Eve	1	2	3	4

Department of Defense
U.S. Army Engineer Research and Development Center

Construction Engineering Research Laboratory

The U.S. Army Engineer Research and Development Center (ERDC) Construction Engineering Research Laboratory (CERL) develops technologies key to the design, build, operation and maintenance of training lands and contingency bases. Their innovative projects include 3D-printed concrete buildings, installation energy, water planning, and robotics for engineering operations — all aimed at supporting critical military mission assets.

NOTES

Photo credit: © ET1 Brandon Diko USCG

Starlink Terminal on Ice Breaker CGC HEALY

Research Engineers at the U.S. Coast Guard Research and Development Center have been testing Arctic technology that will enhance mission operations using the Starlink satellite system. In collaboration with the Air Force Research Lab during an Arctic deployment on the Coast Guard's Healy vessel, the Starlink system's capabilities dramatically improved communication with vessels and operators working closer to the North and South Poles, where communication quality typically drops. The research was so successful that a significant technology transfer occurred when the service announced it was backfitting major vessels with this capability.

JANUARY 2025

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SUN	MON	TUE	WED	THU	FRI	SAT
29	30	31	1 New Year's Day	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20 Martin Luther King, Jr. Day	21	22	23	24	25
26	27	28	29 Lunar New Year	30	31	1

Department of Homeland Security

U.S. Coast Guard Research and Development Center

For over 50 years, the Research and Development Center (RDC), located in New London, Connecticut, has been the Coast Guard's primary facility performing research, development, and testing and evaluation. The RDC has developed technology and knowledge products that have enhanced the service's ability to execute its 11 statutory missions. The center has significant ongoing collaboration and partnerships with local and national organizations including the Federal Laboratory Consortium.

NOTES

Photo credit:
© Maddi Langweil,
USARIEM Public Affairs ORISE
(main and supporting images)

Temperature-Sensing Fibers

In collaboration with the Naval Health Research Center and an industry-academic collaboration, researchers at the U.S. Army Research Institute of Environmental Medicine are testing a new temperature-sensing technology that could warn warfighters before cold weather injuries occur. The technology is a prototype of imperceptible fibers embedded in military cold-weather clothing — including base layers, gloves and socks — to monitor warfighters' body temperature, heat loss and other physiological responses during critical operational tasks such as transporting casualties and treating patients.

FEBRUARY

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SUN	MON	TUE	WED	THU	FRI	SAT
26	27	28	29	30	31	1
2 Groundhog Day	3	4	5	6	7	8
9	10	11	12	13	14 Valentine's Day	15
16	17 Presidents' Day	18	19	20	21	22
23	24	25	26	27	28 Start of Ramadan	1

Department of Defense

U.S. Army Research Institute of Environmental Medicine

The U.S. Army Research Institute of Environmental Medicine (USARIEM) is internationally recognized as the Department of Defense's premier laboratory for warfighter health and performance research, focusing on environmental medicine, physiology, physical and cognitive performance, and nutrition research. The USARIEM provides solutions to optimize warfighter health and performance through biomedical research. Located in Natick, Massachusetts, USARIEM is a subordinate command of the U.S. Army Medical Research and Development Command under the Army Futures Command.

NOTES

Photo credit: © Glen Cooper

MURMUR

The Motion Under Rubble Measured Using Radar (MURMUR) system is a portable life-detection sensor designed to rapidly locate survivors amid rubble and degraded infrastructure in complex post-disaster conditions. Mounted on a robotic vehicle, this remote-controlled system uses radar to peer through rubble and debris to detect radio frequency signals indicating the motion of human breathing. By guiding rescue teams, MURMUR reduces risks to first responders and search animals during dangerous search efforts and helps them recover survivors more quickly. MURMUR systems were demonstrated in exercises with military and police units and more recently transitioned for operational use.

LINCOLN LABORATORY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

MARCH

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SUN	MON	TUE	WED	THU	FRI	SAT
23	24	25	26	27	28	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
Start of Daylight Saving Time						
16	17	18	19	20	21	22
23	24 St. Patrick's Day	25	26	27	28	29
30 Eid al-Fitr	31					

Department of Defense
MIT Lincoln Laboratory

MIT Lincoln Laboratory researches and develops advanced technologies to address critical national security needs. It emphasizes building operational prototypes and transferring its innovations to the government and industry. The lab's ability to turn concepts into field-worthy systems is enabled by talented staff working in specialized, cutting-edge facilities to develop technological solutions in a broad range of fields, such as radar systems, satellite communications, biotechnology, cybersecurity and artificial intelligence.

NOTES

Photo credit: © USDA-Wildlife Services (main and supporting images)

FlashTag: Protecting Livestock from Predation

Scientists at the National Wildlife Research Center, within the U.S. Department of Agriculture-Animal and Plant Health Inspection Service's Wildlife Services (WS), worked with WS Operations, Utah State University and Colorado State University experts to develop a novel LED light deterrent for protecting cattle and sheep from large predators such as wolves. The device, known as a FlashTag, is attached to the ear of livestock and only activates when it is dark and the animal is in rapid motion. It is believed the light emitted from these low-cost, solar-powered tags confuse and frighten predators when they pursue the tagged livestock.

USDA

APRIL

FLC
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U.S. Department of Agriculture
Animal and Plant Health Inspection Service

National Wildlife Research Center

The National Wildlife Research Center is the research unit of the U.S. Department of Agriculture-Animal and Plant Health Inspection Service's Wildlife Services program. Its mission is to apply scientific expertise to resolve human-wildlife conflicts while maintaining the quality of the environment shared with wildlife. Researchers focus on issues related to agriculture, natural resources, property, human health and safety, and wildlife diseases.

SUN	MON	TUE	WED	THU	FRI	SAT
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19 Start of Passover
20	21	22 Tax Day	23	24	25	26
27 Easter Sunday	28	29 Earth Day	30	1	2	3 World IP Day

NOTES

Photo credit
Main image: © Colm Sweeney, NOAA/Global Monitoring Laboratory

Inset image: © Michael Rhodes, University of Colorado-Boulder/Integrated Remote and In Situ Sensing (CU/IRISS)

High-Altitude Operational Returning Unmanned System (HORUS)

The HORUS glider is a portable, low-cost, flexible platform for sampling the atmosphere from high altitudes to the Earth's surface. The benefits of HORUS are that it is reusable, inexpensive and capable of landing at a predetermined location. During its descent, the HORUS glider autopilots the instrumentation to a landing site via an onboard computer. At 1,000 feet, a parachute deploys, slowing the device to enable a soft landing and easy retrieval.

MAY

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SUN	MON	TUE	WED	THU	FRI	SAT
27	28	29	30	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18 Mother's Day	19	20 FLC 2025 National Meeting	21	22	23	24 Armed Forces Day
25	26 Memorial Day	27	28	29	30	31

National Oceanic and Atmospheric Administration Global Monitoring Laboratory

The Earth System Research Laboratories' Global Monitoring Laboratory of the National Oceanic and Atmospheric Administration conducts research that addresses three major challenges: greenhouse gas and carbon cycle feedbacks; changes in clouds, aerosols and surface radiation; and recovery of stratospheric ozone.

NOTES

Using the Power of the Sun to Roast Green Chile

Sandia National Laboratories engineers found a green way to roast an official New Mexico vegetable: green chile. In autumn, roasting chile in a propane-fueled barrel is a statewide tradition — but it isn't environmentally friendly. During peak roasting season, burning propane results in about 7,800 metric tons of carbon dioxide. Using concentrating solar power technologies at Sandia's National Solar Thermal Test Facility reduced as much carbon dioxide emissions as planting 130,000 tree seedlings. The solar-heated traditional chile pepper roasting barrel reached 900 degrees Fahrenheit and has the potential to increase the speed and quality of roasted chile peppers.

National Nuclear Security Administration

Sandia National Laboratories

Photo credit: © Former Sandian Randy Montoya (main and supporting images)

JUNE

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SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21 Flag Day
22 Father's Day	23	24	25	26 Juneteenth	27	28
29	30	1	2	3	4	5

Department of Energy
Sandia National Laboratories

Sandia National Laboratories is a multi-mission laboratory managed and operated by National Technology & Engineering Solutions of Sandia, LLC, a wholly owned subsidiary of Honeywell International Inc., for the U.S. Department of Energy's National Nuclear Security Administration. Major research and development responsibilities include nuclear deterrence, national security, defense nuclear nonproliferation, energy technologies, and advanced science and technology, with main facilities in Albuquerque, New Mexico, and Livermore, California.

NOTES

Photo credit: © Scott Watson, David Woodfin and Allen Hopkins Los Alamos National Laboratory (main and supporting images)

National Nuclear Security Administration

Los Alamos NATIONAL LABORATORY

Providing a Portable Multitool of X-ray Sources

PHOENIX (Portable, High-efficiency, Orthovoltage ENergy, Imaging X-ray source), a 2024 R &D 100 Winner, is the first portable X-ray source delivering a moderate-voltage energy range, which is significantly more penetrating than medical X-rays. Los Alamos National Laboratory's patented technology supplies high-energy photons to image thick metal objects and lower-energy photons for high contrast on thin objects without sacrificing image quality on either. PHOENIX produces high-resolution images for remote inspection of stationary structures, bridges, pipeline welds, oil wells and threat objects. Such commercial applications are impractical for current X-ray imaging technologies that require hazardous radioisotopes or large power generators for operation.

JULY

FLC
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SUN	MON	TUE	WED	THU	FRI	SAT
29	30	1	2	3	4	5
6	7	8	9	10	11 Independence Day	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2

Department of Energy
Los Alamos National Laboratory

Los Alamos National Laboratory, a multidisciplinary research institution engaged in strategic science on behalf of national security, is managed by Triad, a public service-oriented, national security science organization. Los Alamos enhances national security by ensuring the safety and reliability of the U.S. nuclear stockpile; developing technologies to reduce threats from weapons of mass destruction; and solving problems related to energy, environment, infrastructure, health and global security concerns.

NOTES

Multilayered Fire Protection System

The National Aeronautics and Space Administration (NASA) Langley Research Center has developed a flexible, lightweight and portable thermal protection system. The systems are multilayer thermal blankets that are designed to handle external temperatures of up to 2,000 degrees Fahrenheit. Flight tests clearly demonstrate how this system can protect equipment, facilities and people from a high-intensity incident heat source such as a fire. It can be deployed as a sleeping bag, tent, blanket, vertical barrier, curtain, flexible roll-up doorway or wrap.

Photo credit
Main image: © NASA

Inset image: © Getty Images

AUGUST

FLC
Federal Laboratory Consortium for Technology Transfer

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SUN	MON	TUE	WED	THU	FRI	SAT
27	28	29	30	31	1	2
3	4	5	6	7	8	9 Anniversary of the CHIPS and Science Act
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31		International Dog Day				

National Aeronautics and Space Administration
Langley Research Center

NASA's Langley Research Center is comprised of nearly 200 facilities on 764 acres in Hampton, Virginia, and employs about 3,400 civil servants and contractors. Langley works to make revolutionary improvements to aviation, expand understanding of Earth's atmosphere and develop technology for space exploration. As a result of NASA Langley's over 100 years of major contributions to aerospace research and development, it is listed on the National Register of Historic Places.

NOTES

Testing Ultrasonic Drying Technology for In-Space Use

At Oak Ridge National Laboratory (ORNL), Ayyoub Momen, PhD, invented an ultrasonic clothes-drying technology that worked twice as fast as residential dryers with one-fifth the energy. Ultrasonic Technology Solutions licensed the technology from ORNL to commercialize it.
One application is as a space toilet, removing water from human waste, which accounts for 75% of its weight. This reduces the costs of returning solid waste to Earth and preserves water — a precious commodity in orbit.

OAK RIDGE National Laboratory

Photo credit: © Steve Boxall, Zero Gravity Corporation

SEPTEMBER

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SUN	MON	TUE	WED	THU	FRI	SAT
31	1	2	3	4	5	6
	Labor Day					
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	1	2	3	4

Department of Energy
Oak Ridge National Laboratory

Oak Ridge National Laboratory, operated by UT-Battelle on behalf of the Department of Energy, delivers scientific discoveries and technical breakthroughs needed to realize solutions in energy and national security and provide economic benefit to the nation. It conducts research that translates science into solutions for the world's biggest problems. This translational R&D approach spans fundamental science to demonstration and deployment, leveraging signature strengths in materials, neutrons, nuclear and computing sciences.

NOTES

Oyster Breeding Center Photobioreactors

In June 2024, the National Oceanic and Atmospheric Administration Fisheries' Northeast Fisheries Science Center and the U.S. Department of Agriculture's Agricultural Research Service launched a state-of-the-art Northeast Oyster Breeding Center. Scientists use advanced selective breeding methods to develop better-performing lines of Eastern oysters to boost production. The goal is to breed disease-resistant oysters that are resilient in the face of current and changing environmental conditions in the Northeast's diverse oyster-growing areas. To do that, they need large quantities of phytoplankton to feed larval oysters. These two photobioreactors grow the phytoplankton needed to conduct the team's oyster breeding research.

Photo credit: © George Sennefelder NOAA Fisheries

OCTOBER

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SUN	MON	TUE	WED	THU	FRI	SAT
28	29	30	1	2	3	4
			Start of Federal Fiscal Year			
5	6	7	8	9	10	11
12	13	14	15	16	17	18
	Columbus Day Indigenous Peoples' Day					
19	20	21	22	23	24	25
	Anniversary of Federal Technology Transfer Act of 1986 Start of Diwali	Anniversary of Stevenson-Wydler Act				
26	27	28	29	30	31	1
					Halloween	

Department of Commerce National Oceanic and Atmospheric Administration

Northeast Fisheries Science Center

The Northeast Fisheries Science Center has conducted a comprehensive marine science program in the region since 1871. The lab studies fisheries, monitors and models ocean ecosystems, and provides reliable advice for policymakers. The lab's work promotes recovery and long-term sustainability of marine life in the region, supports both wild and cultured seafood harvests, helps sustain coastal communities, and generates economic opportunities and benefits from the use of these resources.

NOTES

Photo credit: © Chris Morgan
(main and supporting images)

EC-Leach

The Idaho National Laboratory teamed with Arizona-based Airtronics to commercialize a lithium-ion battery recycling technology developed by the Department of Energy's Critical Materials Institute. This technology could significantly increase domestic capacity to competitively produce cathode materials from discarded batteries.

INL
Idaho National Laboratory

NOVEMBER

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SUN	MON	TUE	WED	THU	FRI	SAT
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9 End of Daylight Saving Time	10	11 Election Day	12	13	14	15
16	17	18 Veterans Day	19	20	21	22
23	24	25	26	27 Thanksgiving	28	29
30						

Department of Energy

Idaho National Laboratory

Idaho National Laboratory (INL) is home to more than 6,100 researchers and support staff focused on innovations in nuclear research, renewable energy systems and security solutions that are changing the world. From discoveries in advanced nuclear energy to carbon-free energy options and protecting our nation's most critical infrastructure assets, the talented team at INL is constantly pushing the limits to redefine what's possible.

NOTES

Photo credit: © Garry McLeod

Lawrence Livermore National Laboratory

EXtreme-Power, Ultra-Low-Loss, Dispersive Element (EXUDE) Elite Optical Element

EXtreme-power, Ultra-low-loss, Dispersive Element (EXUDE) Elite optical element is a Lawrence Livermore National Laboratory (LLNL) breakthrough toeing a paradigm shift in high-power laser technology. The technology concentrates light from multiple lasers with different wavelengths into a single, high-power beam with unparalleled compactness and damage resistance. EXUDE Elite allows laser systems to combine multiple beams into one to produce high-quality lasers with unprecedented power approaching megawatt levels.

DECEMBER 2025

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SUN	MON	TUE	WED	THU	FRI	SAT
30	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19 Anniversary of Bayh-Dole Act	20
21 Start of Hanukkah	22	23	24	25	26	27
28	29	30	31 New Year's Eve	1 Christmas	2 Start of Kwanzaa	3

Department of Energy

Lawrence Livermore National Laboratory

Lawrence Livermore National Laboratory (LLNL) is part of the National Nuclear Security Administration within the Department of Energy. LLNL's mission is strengthening national security by developing and applying cutting-edge science, technology and engineering that respond with vision, quality, integrity and technical excellence to scientific issues of national importance. The laboratory's science and engineering are being applied to achieve breakthroughs for counterterrorism and nonproliferation, defense and intelligence, energy and environmental security.

NOTES

Photo credit:
Main image: © International Space Station NASA

Inset image: David Woodfin and Allen Hopkins Los Alamos National Laboratory

Protecting Space Assets with the Compact Space Plasma Analyzer

The space plasma environment can cause hazardous levels of charging, which can damage satellites and interfere with communication signals. Los Alamos National Laboratory developed the Compact Space Plasma Analyzer (CSPA) to measure plasma and resulting spacecraft charge. The patent-pending design minimizes size, weight and power requirements. The R&D 100 Award-winning technology can monitor satellite environments for commerce and national security applications at a fraction of the cost of traditional sensors. The U.S. Air Force Academy implemented CSPA for the Department of Defense Space Test Program.

UNITED STATES AIR FORCE ACADEMY

U.S. DEPARTMENT OF ENERGY

Los Alamos NATIONAL LABORATORY

NNSA National Nuclear Security Administration

JANUARY 2026

FLC
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SUN	MON	TUE	WED	THU	FRI	SAT
28	29	30	31	1 New Year's Day	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19 Martin Luther King, Jr. Day	20	21	22	23	24
25	26	27	28	29	30	31

Department of Energy
Los Alamos National Laboratory

Los Alamos National Laboratory, a multidisciplinary research institution engaged in strategic science on behalf of national security, is managed by Triad, a public service-oriented, national security science organization. Los Alamos enhances national security by ensuring the safety and reliability of the U.S. nuclear stockpile; developing technologies to reduce threats from weapons of mass destruction; and solving problems related to energy, environment, infrastructure, health and global security concerns.

NOTES

LAB TECH EXTRAS

Miniature Microwave Sounder

MIT Lincoln Laboratory developed a miniaturized microwave sounder for NASA's TROPICS (Time-Resolved Observations of Precipitation structure and storm Intensity with a Constellation of Smallsats) mission. The sounder, integrated into a low-cost, small satellite (CubeSat), measures temperature, humidity and precipitation within tropical storms. A constellation of CubeSats can make hourly measurements enabling scientists to study the evolution of storms. Data collected by an 18-CubeSat constellation carrying this sounder will be used to generate forecasting models available to organizations needing time-sensitive monitoring of extreme storms.

LINCOLN LABORATORY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Photo credit: Blue Canyon Technologies

Nanosensor Array for Medical Diagnosis

NASA Ames' Nanosensor Array for Medical Diagnosis is being used to detect cow pregnancy via the cow's breath! The technology is based on nanochemical sensors on a silicon chip for real-time chemical and physical properties measurement of human breath (or, in this case, cow breath) for non-invasive and low-cost medical diagnosis. Agscent Breath Diagnostic devices will be a game changer. They will allow point-of-care pregnancy and disease diagnostics, which will improve livestock and dairy operator productivity, decrease costs, reduce operator injury and improve animal welfare.

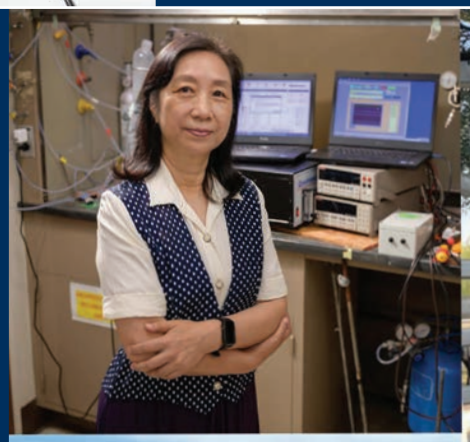

Photo credit: © NASA and Agscent

Researching Yosemite Bat Ecology using Radio Telemetry

U.S. Geological Survey (USGS) scientists attach a tiny radio transmitter to a California myotis (Myotis californicus) to study bat movements and roosting ecology, vital information for their conservation in partnership with Yosemite National Park. USGS is at the forefront of deploying tracking technology, acoustic monitoring and other cutting-edge methods to study the ecology of cryptic wildlife.

USGS
science for a changing world

Photo credit (main image): © Austin Waag

Photo credit (supporting image): © Julia Ersan

Field Pennycress — Weed to Food, Fuel and Feed

Field pennycress, a winter annual oilseed crop from the mustard family, is being domesticated to fit into the Midwest's conventional agricultural system. The advantage of pennycress production over other alternative oilseeds — such as canola, rapeseed and camelina — is that its winter hardiness allows for off-season production during the winter months, providing farmers with an additional cash crop. Farmers would have the ability to harvest three cash crops within a two-year timeframe. Pennycress serves as a new feedstock in the U.S. for advancing biofuels without competing with land for food production.

USDA

Photo credit: © Amber Durham (main and supporting images)

Grand Tube at the Advanced Photon Source

This is a view inside the Grand Tube at the Advanced Photon Source at the Department of Energy's Argonne National Laboratory during the tube's installation in 2024. The Grand Tube is a 70-foot-long, 9-foot-wide stainless-steel vacuum tube in which large-scale mobile X-ray detectors move in all three dimensions around samples, collecting scattering data. Scientists can use this data to reconstruct better 3D images of materials to better visualize their structures. Research revealed the Advanced Photon Source will lead to more efficient solar cells and more advanced chips for electronic devices, among many other breakthroughs.

Argonne NATIONAL LABORATORY

Photo credit: © Jason Creps

Dry Ice Shipping Hazard on Cargo Aircraft

As soon as researchers developed a Covid-19 vaccine, it was shipped around the world. This vaccine required far greater amounts of dry ice than other medicines to maintain the ultra-low temperature during transport and storage. However, dry ice is a hazardous material when shipped via air. The Federal Aviation Administration quickly performed a series of tests, including this full-scale test on a retired cargo aircraft, to evaluate potential hazards. Soon, new guidance was issued to safely ship the vaccine across the U.S. and around the world.

FEDERAL AVIATION ADMINISTRATION

Photo credit: © Amanda Werner, Art-Z Graphics

THANK YOU

to all of the federal laboratories that submitted photos of their innovative technologies.

Your participation helps the T2 community thrive!

LABORATORY DIRECTORY

December '24
Department of Defense
U.S. Army Engineer Research and Development Center
Construction Engineering Research Laboratory

January '25
Department of Homeland Security
U.S. Coast Guard
Research and Development Center

February
Department of Defense
U.S. Army Research Institute of
Environmental Medicine

March
Department of Defense
MIT Lincoln Laboratory

April
U.S. Department of Agriculture
Animal and Plant Health Inspection Service
National Wildlife Research Center

May
National Oceanic and Atmospheric Administration
Global Monitoring Laboratory

June
Department of Energy
Sandia National Laboratories

July
Department of Energy
Los Alamos National Laboratory

August
National Aeronautics and Space Administration
Langley Research Center

September
Department of Energy
Oak Ridge National Laboratory

October
Department of Commerce
National Oceanic and Atmospheric Administration
Northeast Fisheries Science Center

November
Department of Energy
Idaho National Laboratory

December '25
Department of Energy
Lawrence Livermore National Laboratory

January '26
Department of Energy
Los Alamos National Laboratory

Lab Tech Extras

Department of Defense
MIT Lincoln Laboratory

National Aeronautics and Space Administration
Ames Research Center

Department of the Interior
U.S. Geological Survey
Western Ecological Research Center

U.S. Department of Agriculture
Agricultural Research Service
National Center for Agricultural Utilization Research

Department of Energy
Argonne National Laboratory

Department of Transportation
Federal Aviation Administration
Fire Safety Laboratory

FLC

Federal Laboratory Consortium
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