Los Alamos Overview

Los Alamos National Laboratory is a premier national security research institution. The people of Los Alamos work on advanced technologies to provide the United States with the best scientific and engineering solutions to many of the nation's most crucial challenges.

Yesterday

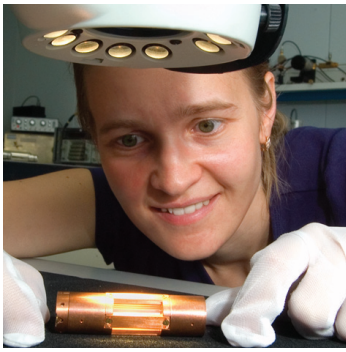
The Laboratory was established in 1943 as site Y of the Manhattan Project for a single purpose: to design and build an atomic bomb. It took just 20 months. On July 16, 1945, the world's first atomic bomb was detonated 200 miles south of Los Alamos at Trinity Site on the Alamogordo bombing range. Under the scientific leadership of J. Robert Oppenheimer and the military direction of General Leslie Groves, scientists at the Laboratory had successfully weaponized the atom.

Hitler was defeated in Europe, but the Japanese Empire continued to wage an aggressive Pacific war. So President Harry Truman chose to employ atomic bombs in an effort to end WWII. Little Boy, a uranium gun-type weapon, was used against Hiroshima; Fat Man, an implosion plutonium bomb, was dropped on Nagasaki. On August 14, the war officially ended. An invasion of the Japanese home islands proved unnecessary, thus sparing thousands of American and Japanese lives.

J. Robert Oppenheimer and Gen. Leslie Groves at the Trinity test site in 1945

Today

The Los Alamos of today has the ever-present core values of intellectual freedom, scientific excellence, and service to the nation. Outstanding science is the foundation for the past, present, and future. A rich variety of research programs directly



and indirectly support the Laboratory's basic mission: to ensure the safety, security, and effectiveness of the nation's nuclear deterrent, reduce global threats, and solve emerging national security challenges.

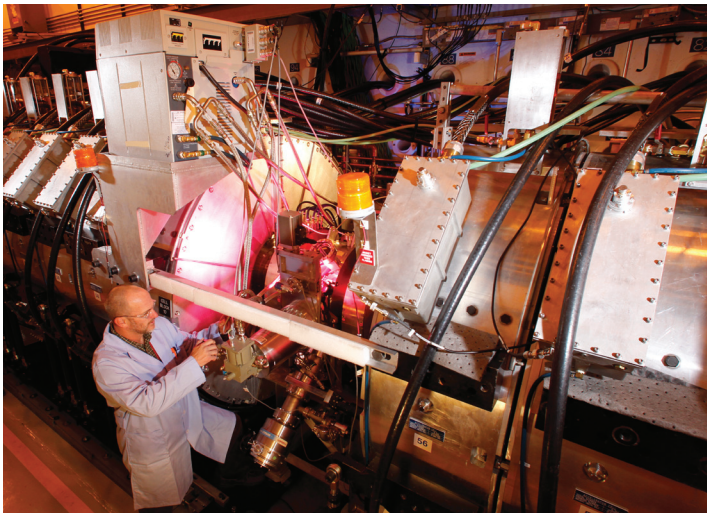
The Laboratory also works on nuclear nonproliferation and border security, energy and infrastructure security, and measures to counter nuclear and biological terrorist threats. As a foundation, the Laboratory conducts fundamental science in

- high-energy and applied physics and theory
- high-performance computing
- dynamic and energetic materials science
- superconductivity
- quantum information
- advanced materials
- bioinformatics
- theoretical and computational biology
- chemistry
- earth and environmental science
- energy and infrastructure security
- engineering sciences and applications
- nanotechnology

Tomorrow

The future is filled with promise. All Laboratory programs are built on our scientific infrastructure, with a focus on attracting and retaining top scientific talent and providing them the tools to succeed.

- DARHT, a unique radiography facility, allows scientists to perform nonnuclear experiments designed to measure the many complex, dynamic aspects of a nuclear weapon during initiation.
- Cielo and Roadrunner rank among the world's fastest and most energy efficient supercomputers. Both are approved for classified computing operations, directly supporting the Laboratory's weapons program.
- MaRIE, a signature experimental facility intended to conduct research of Matter-Radiation Interactions in Extremes and translate that into real program solutions.
- Chemistry and Metallurgy Research Replacement facility, key to supporting the nation's need to recapture plutonium manufacturing capabilities.



The Laboratory's Dual Axis Radiographic Hydrodynamic Test (DARHT) facility completed multiple successful two axis, multi-frame hydrodynamic tests.

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Los Alamos National Laboratory is operated by Los Alamos National Security, LLC, a team composed of Bechtel National, the University of California, The Babcock & Wilcox Company, and URS for the Department of Energy's National Nuclear Security Administration.

Fast Facts 2012

People

Total employees, 10,751

Los Alamos National Security, LLC, 7,013

SOC Los Alamos (Guard Force), 401

Contractors, 501

Students, 978

Place

Located 35 miles northwest of Santa Fe, New Mexico, on 36 square miles of DOE-owned property.

More than 2,000 individual facilities, including 47 technical areas with 8 million square feet under roof.
Replacement value of $9.8 billion.

Operating costs FY 2012: about $2.2 billion

57% Weapons programs

9% Nonproliferation programs

7% Safeguards and Security

8% Environmental Management

4% DOE Office of Science

4% Energy and other programs

11% Work for Others

Workforce Demographics (LANS and students only)

42% of employees live in Los Alamos, the remainder commute from Santa Fe, Española, Taos, and Albuquerque.

Average Age: 45

67% male, 33% female

43% minorities

72% university degrees

· 31% hold undergraduate degrees

· 19% hold graduate degrees

· 22% have earned a Ph.D.

Major Awards

124 R&D100 awards since 1978

31 E.O. Lawrence Awards

The Seaborg Medal

The Edward Teller Medal

The Nobel Prize in Physics - Frederick Reines

Los Alamos
NATIONAL LABORATORY
EST. 1943