



Exceptional service in the national interest



Sandia National Laboratories

PARTNERSHIP *Opportunities*

Partnering with Sandia

Sandia National Laboratories (SNL) offers partners access to SNL's science, people, and infrastructure. Collaborations with industry and small businesses support SNL's primary missions and help companies bring exciting technologies to the marketplace as new and improved products.

Over the years, SNL's missions relating to national security have expanded beyond weapons and defense. These missions include areas like energy, climate, and infrastructure security, because access to reliable, affordable, and sustainable sources of energy is essential for our modern economy and national security.

Expanded missions mean that SNL, as a noncompetitive partner, can offer you access to a broad array of technologies and expertise in a number of disciplines, ranging from the life and physical sciences to microelectronics and information systems.

What's in it for each partner?

Partnering brings benefits to industry and SNL. Collaborations leverage each partner's resources to meet common or compatible goals.

For businesses, partnerships with SNL can:

- Transform government investment and the Labs' research into improved products, new companies, and industry innovation.
- Give you access to specialized expertise and technology to meet your research needs.
- Help you stay competitive by commercializing new technologies.

Technology transfer enhances the impact of science and technology discoveries made at SNL. By applying SNL capabilities to industrial problems, the Labs gain new perspectives on vitally important issues that help them meet their mission objectives. At the same time, industry is able to create more robust, new, and/or improved products, upgrading their competitiveness in the global market.

Partnership Opportunities

There are a number of ways you can partner with SNL. On the following pages we briefly describe them and give examples.

Partnership Agreement Types

- Cooperative Research and Development Agreement
- Commercial License Agreement
- Funds-In Agreement / Work for Others
- Designated Capability Agreement
- Technology Development Center Agreement
- User Facility Agreement
- New Mexico Small Business Assistance Agreement

Places to Partner

- Sandia Science & Technology Park
- Livermore Valley Open Campus

For SNL, partnerships with industry can:

- Help the Labs accelerate U.S. industry's innovation and development.
- Increase the Labs' intellectual property portfolio, leading to revenue from licensing and royalties, which can then be used to fund research programs.
- Enable the Labs to complete important projects based on grants and proposals which require industry involvement.

About Sandia

Since 1949, SNL has developed science-based technologies that support our national security. Today, Americans depend on SNL's technology solutions to solve national and global threats to peace and freedom. We seek collaborative partnerships on emerging technologies that support our mission.

Partnership Agreement Types

Cooperative Research and Development Agreement (CRADA)

Through a CRADA, SNL and one or more partners from outside the federal government collaborate and pool the results from a research and development project that benefits the industry partner and enhances the mission of the U.S. Department of Energy (DOE), as well.

Information developed under a CRADA can be protected for five years; ownership and licensing of CRADA-generated intellectual properties are negotiated.



Goodyear's strategic partnership with SNL helps them bring innovative products to market more quickly, making the company more competitive.

Goodyear

Goodyear is a long-term partner with SNL, using a CRADA to enable cooperative work with SNL's researchers who have expertise in computational simulation. Goodyear has been using the technology to quickly perform detailed tire simulations for almost every new product design. The SNL/Goodyear partnership focuses on high-speed rolling, noise modeling, and fully coupled thermo/mechanical rolling simulations. The simulation tools have also been used to develop tires with minimum rolling resistance in order to improve cars' fuel economy.

Commercial License Agreement

Licensing permits SNL to transfer intellectual property to industry for commercialization. SNL can negotiate a variety of terms and conditions for its technology licenses.

See what technologies are available at <https://ip.sandia.gov>.



Wavefront estimates that one million people are already seeing better due to their products, with many more to come.

AMO Wavefront Sciences

Wavefront continues to create new products based on wavefront sensing metrology. The company began licensing technology from SNL in its early days, and this initial intellectual property is the seed which has enabled Wavefront's continued evolution into a thriving company which creates optical measuring systems for everything from space telescopes to LASIK surgery. The iDesign Advanced Wavescan Studio aberrometer is the latest in their Ophthalmology product line (for sale in Europe). It simultaneously measures the detailed structure of the eye, from the shape of the cornea all the way through the retina, and is used in treatment planning for laser refractive surgery. Wavefront estimates that one million people are already seeing better due to their products, with many more to come.

Funds-In Agreement / Work for Others (WFO)

SNL can conduct work for non-federal entities such as private industry, state and local government, and academia on a reimbursable basis. The work cannot compete with capabilities in the private sector.

This agreement allows sponsors to access SNL's unique expertise, facilities, and equipment to validate or improve technologies.



Testing GE's new converter at DETL will help GE evaluate its commercial viability and potential.

GE Global Research

GE Global Research approached SNL to collaborate on the evaluation of a photovoltaic converter designed to help large commercial and utility scale PV plants become more energy efficient. GE knows that the Labs' scientists have expertise in this area, and that SNL's Distributed Energy Technologies Laboratory (DETL) is an internationally recognized and renowned facility with the equipment and expertise necessary to perform this evaluation. GE's new converter offers a unique way to get the most out of a solar energy PV plant. Evaluation by SNL will give GE important feedback on the converter's performance and reliability, as well as its impact on PV plants' energy yield.

Designated Capability Agreement

A Designated Capabilities Agreement is a type of Funds-In Agreement. The participating SNL organization has already prepared background paperwork and received DOE approval for its activities, reducing processing time. To access the designated capability, the participant signs a sub-agreement for specific work.

This agreement type allows SNL to provide a quick response to customer requests.



Improved simulations of fractured oil and gas reservoirs save operators millions of dollars per year by reducing well failure rates.

Geomechanics Research, Development, and Applications

Industry can access the unique capabilities, expertise and facilities available at SNL in Geomechanics Research, Development, and Applications. As a Designated Capability, an Umbrella Statement of Work is already written, reducing processing time for new partners. SNL's Geomechanics Laboratory is recognized nationally and internationally as a center for excellence in rock mechanics. SNL researchers have expertise in areas including underground energy storage, CO₂ sequestration, oil and gas reservoir analysis, and underground hazardous waste disposal. Experiments are conducted and constitutive models are developed to help sponsors understand phenomena such as large scale deformation of rock, fluid flow, and engineered systems involving porous, pressure sensitive or brittle materials as they relate to their particular research and development requirements.

Technology Deployment Center Agreement

Many of SNL's unique research centers are available for use by U.S. industry, universities, other laboratories, state and local governments, and the scientific community in general. Technology deployment centers are a unique set of scientific research capabilities and resources.

Technology deployment centers allow access to DOE facilities by outside users, while they are concurrently being used for DOE programmatic needs.



SolarReserve develops large-scale solar energy products worldwide and utilizes the NSTTF to develop, deploy, and test their heliostats.

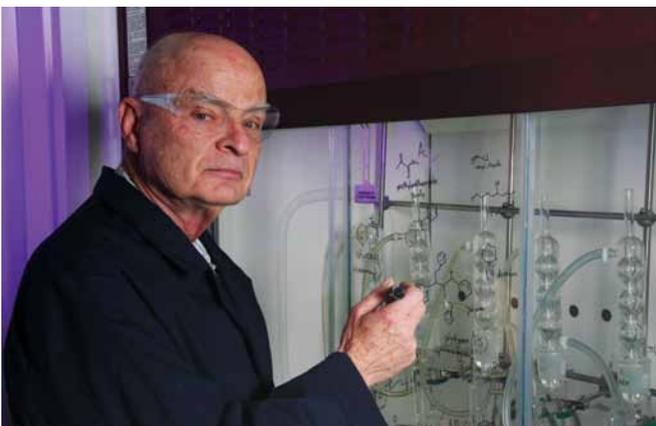
The National Solar Thermal Test Facility (NSTTF)

NSTTF is the only test facility in the United States of its type. It provides experimental engineering data for the design, construction, and operation of unique components and systems in proposed solar thermal electrical plants. SolarReserve, a solar energy project development company developing large-scale solar energy projects worldwide, utilizes the NSTTF (a.k.a. Solar Tower), via a Technology Deployment Center Agreement. They employ the NSTTF-developed Beam Characterization System to evaluate the tracking accuracy and beam profile on the face of the solar tower. SolarReserve has two full-time employees on site at the NSTTF to support their activities.

User Facility Agreement

SNL has facilities that can be accessed by private-sector companies, universities, and other laboratories through a User Facility Agreement.

Under a User Facility Agreement, SNL and a company perform work together at an SNL facility.



CINT Industrial User Ed Flynn has developed a less invasive and more precise method for detection of breast cancer using nano-particles, which he is preparing for commercial use.

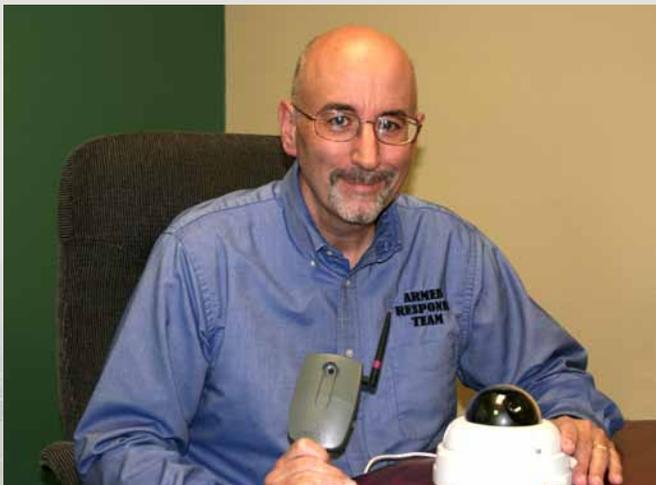
The Center for Integrated Nanotechnologies (CINT)

CINT is a DOE Office of Basic Energy Sciences nanoscale science research center operated as a national user facility by SNL and Los Alamos National Laboratory (LANL). Through its Core Facility in Albuquerque and Gateway Facility in Los Alamos, CINT provides access to the capabilities and scientific expertise of its scientists, post-doctoral fellows and technical support personnel. Together, CINT users and staff are establishing the scientific principles that govern the design, predict the performance, and enable the integration of nanostructured materials into the micro and macro worlds. Access is via peer-reviewed technical proposals, for independent or collaborative research, submitted in response to semi-annual Calls for User Proposals.

New Mexico Small Business Assistance (NMSBA) Program Agreement

The NMSBA Program assists small businesses in New Mexico access cutting-edge technologies, solve technical challenges, and gain knowledge from experts at SNL and LANL. Assistance is provided in the form of lab staff hours valued at up to \$20,000 per calendar year for businesses located in rural counties, and up to \$10,000 per calendar year for businesses located in an urban county (e.g. Bernalillo County).

The assistance is provided at no cost to small businesses.



Armed Response Team

As an NMSBA client, Armed Response Team (ART) has come up with a breakthrough way to watch electrical transformers without attaching to them. This new solution is cost-effective and is able to be installed easily and unobtrusively. Guidance from experts at SNL in video analytics technology led to a solution which is helping ART grow locally and expand to other states. The new development is also saving businesses the expense of downtime related to this crime. Insurance companies are now considering offering discounts to businesses using ART technology.

ART is utilizing advice they've received from researchers at SNL to solve an enormous local and national problem—copper wire theft from businesses.

Places to Partner

Sandia Science & Technology Park (SS&TP)

The SS&TP is a master-planned, high-tech campus with stunning mountain views, fiber optic communications, and a full-time team for support and customer service. From its landscaped medians, bike paths, and walkways, to pocket parks with shade structures and exercise stations, the Park provides an excellent blend of high-technology with quality-of-life features and amenities. Adjacent to the multibillion-dollar engineering and science facilities of SNL and the Air Force Research Laboratory, mature companies and startups collaborate with these top laboratories on a broad assortment of technologies, products, and services.



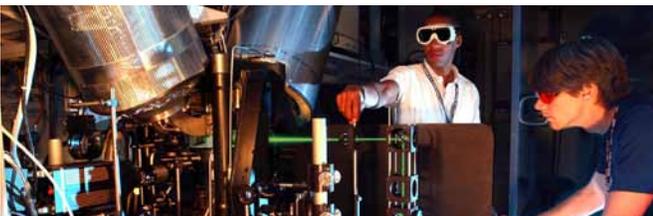
EMCORE's close proximity to the Labs helps facilitate partnerships with SNL.

EMCORE Corporation

EMCORE, a leading provider of compound semiconductor-based components and subsystems for the fiber optic and solar power markets, established its photovoltaics business at the SS&TP in 1998 through a technology transfer of multi-junction solar cell technology from SNL. In 2006 the company moved their headquarters from New Jersey to the SS&TP. More recently, SNL and EMCORE have partnered on proposals to the DOE. The company has successfully used agreement types including licenses, WFO, NMSBA and a CRADA to help grow its business. Currently EMCORE is engaged in a program using its expertise in the growth of solar cells for SNL's micro-concentrator Laboratory Directed Research and Development program.

Livermore Valley Open Campus (LVOC)

Through an exciting partnership between two DOE national laboratories, SNL and Lawrence Livermore National Laboratory (LLNL), the LVOC was established in 2011 as a space for open, collaborative work in areas such as bioscience, combustion research, cyber security, detection technologies, and hydrogen applications. Collaborators can visit LVOC facilities for hours, days, weeks, or even months to work side by side with researchers. Facilities at the LVOC include the world-renowned Combustion Research Facility, managed by SNL; the brand-new High Performance Computing Innovation Center, managed by LLNL; and other well-established, new, and planned facilities.



Low-temperature combustion processes being studied at the CRF can provide engine efficiencies similar to or higher than those of conventional diesel engines with very low emissions of NO_x and particulate.

Combustion Research Facility (CRF)

As a DOE Office of Science collaborative research facility, a key aspect of the Combustion Research Facility's mission is to encourage the direct involvement of individuals, or "collaborators," from the scientific community. The CRF also works with industrial partners on both precompetitive projects that are shared with the community and on proprietary projects that are wholly owned by the sponsor. Precompetitive projects typically involve cost sharing between DOE and industry; while proprietary projects are fully funded by the industrial sponsor. For example, the CRF has been working closely with U.S. engine manufacturers for more than 30 years to increase scientific understanding of internal combustion engine processes affecting efficiency and emissions.

To learn more about partnership opportunities with SNL, please contact us at:

partnerships@sandia.gov
505-284-2001
www.sandia.gov/partnerships

For further information about all the partnership agreement types, download the "Doing Business with Sandia" brochure from the website.



Sandia National Laboratories is a multi-program laboratory managed and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000. SAND No. 2012-XXXX SCG.



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