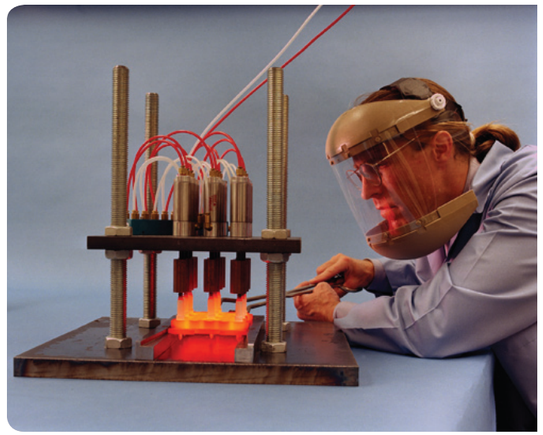
CRADA Benefits – PNNL's CRADA partners can access the Laboratory's capabilities and are given the opportunity to obtain rights to commercialize the results of government R&D.

How do I get a CRADA started?

DOE provides a standard document to begin negotiations, and the parties may negotiate some of the provisions to respond to the needs of the participant. All CRADAs are subject to DOE approval. Start by contacting PNNL's point of contact for CRADAs to obtain necessary forms or get guidance on whether your project or program would be best served by a CRADA.



Pacific Northwest National Laboratory researchers developed a ceramic glass seal for improved electrical resistance in spark plugs and showed automakers how they could upgrade their manufacturing process to mass produce the spark plugs. This work resulted under a CRADA between PNNL and Delphi. General Motors uses the spark plug technology in its automobiles.

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Cooperative Research and Development Agreements at PNNL

Partnerships that speed technology to users

"We aspire to have long-term strategic partnerships with our clients, not a one-off business transaction. But there's a little more to it. In a partnership, both sides bring something to the table and both sides get something in return. Together we're stronger, which is what makes it a partnership. That accurately reflects the cooperative client relationships we seek."

— Mike Schwenk, Director, PNNL Technology Deployment & Outreach

What it's all about

Pacific Northwest National Laboratory (PNNL) has one of the most successful technology transfer programs in the U.S. Department of Energy (DOE) national laboratory system. PNNL, managed by Battelle, has a stellar reputation for tackling big problems with world-class science and technology. In cooperation with other organizations, PNNL provides scientific leadership in addressing some of the nation's most pressing issues in energy, national security, and the environment.

Since two heads are often better than one in solving a problem, PNNL's philosophy is that we should team our research with organizations working in the same space. Together we can make a difference—better and faster—for our country. One mechanism the Laboratory offers for partnering with industry organizations and universities is a Cooperative Research and Development Agreement (CRADA). Created as a result of the Stevenson-Wydler Technology Innovation Act of 1980, a CRADA allows the federal government and non-federal partners to optimize their resources, share technical expertise in a protected environment, use intellectual property emerging from the effort, and advance the commercialization of federally developed technologies.

Collaboration through CRADAs

CRADAs provide the unique opportunity to use new technologies evolving from PNNL's research programs in a collaborative way. CRADAs operate with the goal of increasing industrial competitiveness and helping maintain a steady flow of innovation from U.S. companies into the global marketplace.

Like any partnership, it's important to find the right fit. This includes clearly understanding and agreeing on intellectual property rights and licensing structures. However, once the I's are dotted and the T's are crossed, CRADAs are a viable way for companies to leverage federal expertise towards developing marketable products. It's important to state that CRADAs are not funding agreements. Rather, they offer a chance for companies to access government resources that can save valuable time and money on R&D and accelerate the commercial adoption of technologies.

Did you know that you can …

- gain access to the resources of PNNL, a DOE multiprogram laboratory.
- profit from PNNL's expertise in science and engineering, findings in current research, and technical facilities.
- reduce the risks of developing and applying new technologies.
- do all of this without any exchange of money between you and the government.

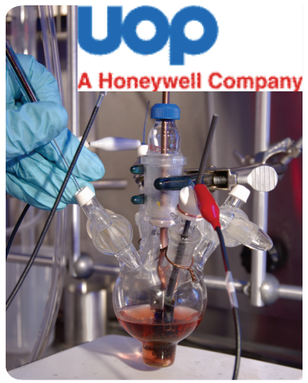
PNNL = a proven partner

PNNL has a highly engaged technology commercialization department that offers a rich source of technology knowledge and business acumen. Behind the team's technology transfer success are world-leading researchers who generate hundreds of inventions each year, many that are available for licensing.

PNNL is well established for its work in energy management and innovation, national security solutions, environmental issues, advanced materials, and fuel cell technologies.

Since 1991, PNNL has:

- teamed on 231 CRADAs worth millions of dollars in R&D
- executed hundreds of licenses (more than 250 current active licenses), resulting in millions of dollars in sales
- received more than 1,550 domestic and international patents.



An example of a CRADA success is the Laboratory's extensive research in catalytic conversions of low-valued waste streams to high-valued chemicals. After developing the required catalysts, PNNL teamed with UOP, LLC—through a CRADA—to create a catalytic process for the conversion of glycerol to propylene glycol.

How does a CRADA benefit you?

A powerful tool for gaining access to, developing, and commercializing new technology, it:

- **provides access to DOE-funded R&D.** Pooling your staff, facilities, and other resources with those of a national laboratory can produce powerful results.
- **allows you to access some of the newest technologies and most extensive R&D capabilities in the world.** Use cutting-edge instrumentation and facilities and tap into expert R&D personnel to advance your product or service.
- **protects intellectual property.** Data generated as part of a CRADA effort can be treated as proprietary for up to five years and is not subject to the Freedom of Information Act.
- **gets to the work quickly.** You and PNNL can negotiate a CRADA within weeks of establishing an initial Statement of Work (SOW).

A CRADA's components

A CRADA contains provisions, which are driven primarily by statutes and policy. These provisions are also designed to be responsive to the needs of different CRADA participants while protecting the interests of the public. Provisions include:

Statement of Work – A CRADA must include a description of the work to be performed, including a technical description of the tasks, the responsible parties, and clear deliverables.

Funding Contributions – A CRADA must define the funding contributions of each party.

Term and Termination – The term of a CRADA may be negotiated by the parties. The term of a CRADA begins on the date it is approved by DOE and ends on the date when the work is expected to be completed. A CRADA can be modified if additional work or an extension is desired, if the scope of the work remains the same. Otherwise a new CRADA must be drafted.

Confidentiality – Proprietary information derived outside of the CRADA, such as trade secrets, may be protected. The parties may negotiate the provisions and obligations for nondisclosure of such information within certain limitations.

Liability – A CRADA must include a disclaimer of expressed and implied warranties as to the conduct of the research and must indemnify DOE and Battelle from all costs related to personal injury and property damage that may result from the research's commercialization.

Rights to Intellectual Property – As a general rule, any inventions made solely by the CRADA participant will be owned by that participant; any inventions made solely by researchers at PNNL will be owned solely by Battelle, and any jointly made inventions will be jointly owned by the CRADA participant and Battelle. The collaborating CRADA participant would be granted an option to negotiate an exclusive license in an agreed upon field of use.