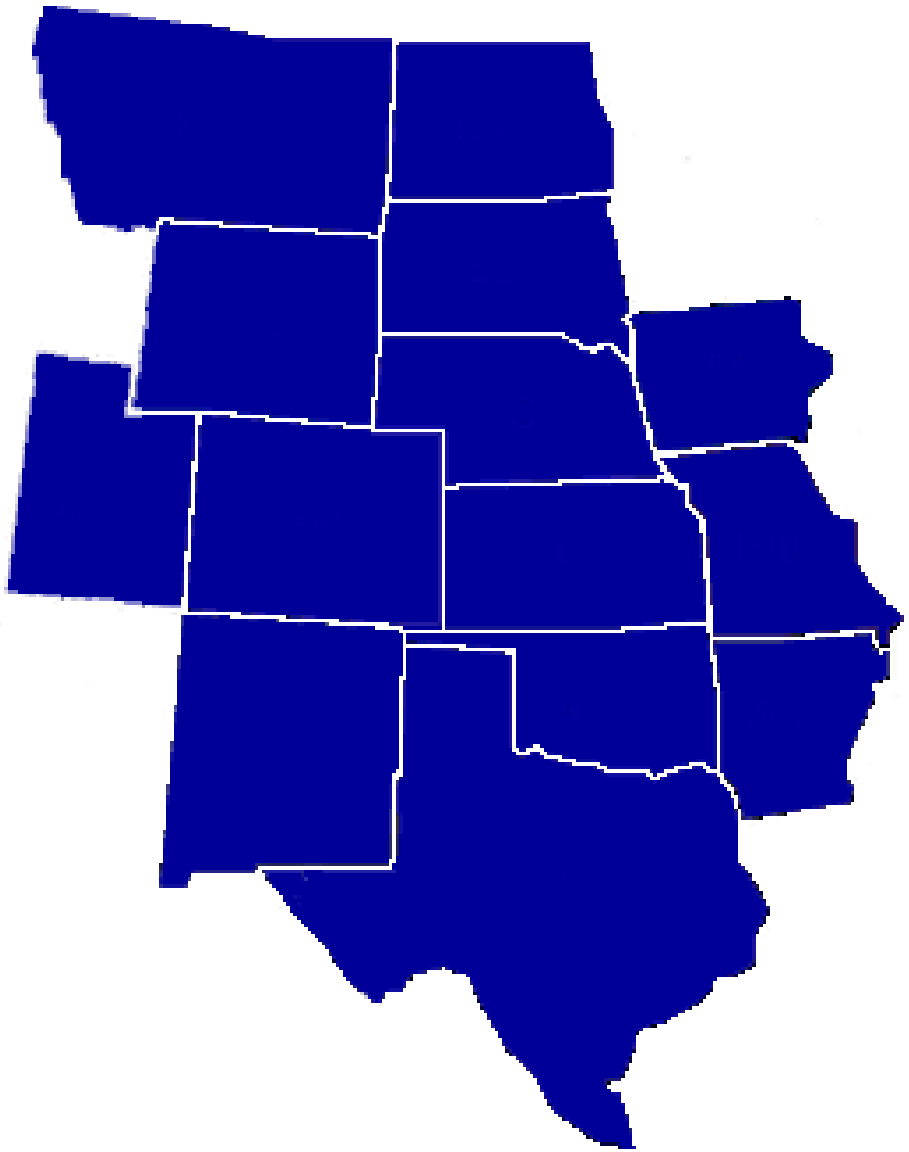

Technology Transfer Mechanisms Used by Federal Agencies:

A Quick Reference Guide

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FEDERAL LABORATORY CONSORTIUM
FLC
FOR TECHNOLOGY TRANSFER

Produced by the Federal Laboratory Consortium's Mid-Continent Region

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The order of this publication focuses on individual agencies and the technology transfer mechanisms inherent to the specific agency since the agency sets the rules and mechanisms that each laboratory must follow. Instead of looking at an individual mechanism, we plan to provide a snapshot of the entire agency and how it does business in the world of technology transfer. By knowing in advance what to expect in a partnership with a federal agency and its laboratory, this knowledge automatically enhances each party's ability to negotiate a fair working arrangement while meeting its individual goals. Anyone interested in doing business with the federal government should remember that any business or partnership with a federal agency will only be entered into by the federal agency if it benefits the agency and enriches its mission.

In 1980, the U.S. Congress enacted the Stevenson-Wydler Technology Innovation Act, the first in a series of laws to promote and authorize technology transfer from federal laboratories to a non-federal entity. This guide describes the most commonly used mechanisms per agency as well as their general features and advantages. It is the endeavor of the Federal Laboratory Consortium for Technology Transfer to share the variety of these mechanisms by agency in order to enhance the ability of U.S. companies to access federally developed technology.

The Federal Laboratory Consortium for Technology Transfer (FLC) is the nationwide network of federal laboratories that provides the forum to develop strategies and opportunities for linking laboratory mission technologies and expertise with the marketplace. The FLC was organized in 1974 and formally chartered by the Federal Technology Transfer Act of 1986 to promote and strengthen technology transfer nationwide. Today, more than 700 major federal laboratories and centers and their parent departments and agencies are FLC members. The Mid-Continent Region is one of six regions making up the FLC organzations. It is made up of 14 states and is rich in environmental, defense, energy, health, and agricultural technologies.

Department of Energy

www.doe.gov

The Department of Energy's resources and expertise supports a mission to advance the national, economic, and energy security of the United States; to promote scientific and technological innovation in support of that mission; and to ensure the environmental cleanup of the national nuclear weapons complex. The Department's strategic goals to achieve the mission are made up of five strategic themes:

- Energy Security: Promoting America's energy security through reliable, clean, and affordable energy
- Nuclear Security: Ensuring America's nuclear security.
- Scientific Discovery and Innovation: Strengthening U.S. scientific discovery, economic competitiveness, and improving quality of life through innovations in science and technology
- Environmental Responsibility: Protecting the environment by providing a responsible resolution to the environmental legacy of nuclear weapons production
- Management Excellence: Enabling the mission through sound management.

To the Department of Energy, the definition of technology transfer can mean many things – technical assistance to solve a specific problem, use of unique facilities, licensing of patents and software, exchange of personnel, and cooperative research. The most appropriate mechanism will depend on the objective of each partner.

DOE provides the following link for additional information on technology transfer legislation, executive orders, DOE Directives, and other documents. **http://www.gc.doe.gov/gcmain.html**

A brief description of several technology transfer mechanisms is as follows:

DOE Mechanism & Authority	Description	Features/Characteristics	I.P. & Resource Commitment
Cooperative Agreements *Authority: Pub. L. 96-368*	**Cooperative Agreements** are instruments entered into by the government with industry, universities and others, to support or stimulate research in which money or property is transferred to the recipient.	Used by industry, universities and others for mutual benefit. Agreements are generally cost-shared with the nonfederal participant.	Agreements are generally cost-shared.
Cooperative Research and Development Agreements (CRADAs)	A **CRADA** is a legal agreement between government laboratories and nonfederal parties in which both participants agree to collaborate, by	• A CRADA requires R&D participation by industry partners.	▪ The nonfederal parties must provide funds or in kind contributions.

DOE	Mechanism & Authority	Description	Features/Characteristics	I.P. & Resource Commitment
	Authority: *Federal Technology Transfer Act of 1986, Public Law 99-502* *National Competitiveness Technology Transfer Act of 1989, Public Law 101-189* *National Technology Transfer and Advancement Act of 1995, Public Law 104-113* *DOE O 483.1* Agreement sample: **http://www.lanl.gov/orgs/tt/pdf/partnering/crada.pdf** **http://www.directives.doe.gov/pdfs/doe/doetext/neword/483/o4831.html**	providing personnel, services, facilities, or equipment and pool the results from a particular research and development program	• Often accompanied by a license or option agreement. • Industry partners must agree to "substantial U.S. manufacture" of resulting products and services, or provide an alternative benefits declaration. • DOE must approve a Joint Work Statement and the CRADA before work is initiated.	▪ The Laboratory cannot pay out funds to the industry partner ▪ Rights to inventions and other intellectual property are negotiated between the laboratory and participant, and certain data that are generated may be protected for up to five years. In many instances, each party receives title to the intellectual property created or invented by its employees. ▪ The U.S. government usually opts to retain a nonexclusive, paid-up, royalty-free, worldwide irrevocable license to use or have used and to manufacture or have manufactured (for government purposes) intellectual property developed under the agreement.
	Cost-Shared Contracts/Subcontracts **http://www.osti.gov/gencoun/partnership.jsp**	**Cost-Shared Contracts/Subcontracts** are collaborations, through procurement that is of mutual benefit to the government. A contract is reached between the government and a non-federal party in which costs associated with the work are shared as identified in the contract.	Arrangements are in-cash or in-kind. Both partners must benefit from the work. Commercially valuable data may be protected for a limited period. Advance waivers are frequently granted where the contractor agrees to cost share at least 20%	Often the government can agree not to disseminate commercially valuable data that is generated under a cost-shared contract for a limited period of time.

DOE	Mechanism & Authority	Description	Features/Characteristics	I.P. & Resource Commitment
			of the total contract cost.	
Patent Licensing Agreement *Authority: Bayh-Dole Act of 1980, Public Law 96-517 (35 U.S.C. 200 et seq.)* *DOE Invention Licensing Home Page and its associated databases -* **http://www.osti.gov/dublincore/gencncl/**		**A Licensing Agreement** transfers less than ownership rights in intellectual property, such as a patent or software copyright, to permit its use by the licensee. Licenses vary from **commercial, noncommercial, and government use**. Licenses can be exclusive, for a specific field of use or for a specific geographical area, or non-exclusive.	**Commercial license** can be exclusive, non-exclusive or option for a specific period of time. If a **commercial license** is granted, the licensee must follow through with the commercialization of the technology. **Noncommercial licenses** are used by education institutions and not for profit organizations; particularly useful for during the beta testing stages of software development. **Government-Use License:** The Government has a paid-up, nonexclusive, irrevocable, worldwide license to use copyrighted data or software on behalf of the Government.	A **commercial license agreement** includes fair market value compensation to the laboratory, and the potential licensee must present plans for commercialization. **Noncommercial License Fee** is typically charged one-time. **Government-Use License:** The Government has a paid-up, nonexclusive, irrevocable, worldwide license to use copyrighted data or software on behalf of the Government.
Memorandum of Understanding *Authority: 42 USC 7256*		**Memorandum of Understanding** is a nonbinding document signed by parties interested in pursuing a comprehensive agreement for the transfer of technology. The MOU defines specific technical areas of interest and the ground rules for interaction and discussion between the parties	These are encouraged for short-term interactions to set the ground rules for future collaboration that are more formal and binding.	Proprietary information is not discussed under an MOU.
Interagency Agreements: *Authority: Economy Act of 1932, 31 USC 1535, PL 95-51* **http://professionals.pr.doe.gov/ma5/MA-5Web.nsf/WebAttachments/AG-**		**Interagency Agreements** (IA) is used by Government agencies to place orders with other agencies when it is in the Government's interest to do so. IAs specify the goods or work to be furnished, any reporting requirements, arrangements for transfer of funds,	The procurement requires an approved procurement request, cost estimate of total project, and Statement of Work and performance schedule.	Patents and technical data is specified in the agreement.

DOE	Mechanism & Authority	Description	Features/Characteristics	I.P. & Resource Commitment
Ch17+InteragencyAgreementAttachment/$File/AG-Ch17+InteragencyAgreementAttachment.pdf		and if appropriate, acquisition authority for any contracts to be awarded pursuant to the IA.		
	Personnel Exchange Programs (PEX) *Authority: Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3712) Federal Technology Transfer Act (Public Law 99-502)*	**Personnel Exchange Programs (PEX)** are arrangements allowing government or laboratory staff to work in industry facilities, and industry personnel to work in government laboratories and facilities to enhance technical capacities and support research in specific areas. PEX are usually reached in accord with other technology transfer agreements and must conform to the terms of other relevant agreements negotiated between parties. These agreements normally extend for a one-year term, but can be renewed. Types of PEXs vary from **Industrial Staff Member Agreement** to **Industrial Assignment Agreement** to **Industrial Fellow Agreement.**	**Industrial Staff Member Agreement**: Company staff member works at the Laboratory. ▪ Company pays the cost of the staff member assigned to the Laboratory (salary and benefits). ▪ The Laboratory provides office space, laboratory, and any support costs, works part-time at a company in a liaison capacity. **Industrial Assignment Agreement:** Laboratory staff member works at a company. ▪ Company pays the costs of the Laboratory staff member assigned to the company site. ▪ Company provides office space, laboratory and associated support costs. **Industrial Fellow Agreement:** Laboratory staff member works part-time at a company in a liaison capacity at a company. ▪ Company pays 50% of the Laboratory staff member's direct salary. ▪ Company provides office space, laboratory and associated	Costs are borne by the organization sending the personnel. Intellectual property arrangements can be addressed in exchange agreements. Personnel Exchange Agreements frequently are reached in accord with other technology transfer agreements and must conform to the terms of other relevant agreements negotiated between parties.

DOE	Mechanism & Authority	Description	Features/Characteristics	I.P. & Resource Commitment
			support costs. These agreements normally extend for a one-year term, but can be renewed.	
R&D Consortia *PL 98-462, Cooperative Research Act of 1984*		**R&D Consortia** are arrangements involving multiple federal and nonfederal parties working together for a common R&D objective.	Funding for R&D consortia may be shared, but usually no funds are exchanged between participants	No funds are exchanged between participants>
Technical Assistance to Small Business *Authority: Atomic Energy Act of 1954 and the Intergovernmental Cooperation Act of 1968 (P.L. 90-577)*		**Technical Assistance to a Small Business** is provided by DOE/laboratory/facility personnel through a response to an inquiry from an individual or organization seeking to further knowledge, solve a specific problem or improve a process or product.	The technical assistance will be provided depending on the laboratory and its time commitments. If the work is extensive, usually these agreements become Work for Others Agreements or CRADAs.	A fee may or may not be charged by the laboratory. The work provided is limited to a certain number of hours.
User Facility Agreements *Authority: Energy Policy Act of 1992 (P.L. 102-486)* **http://www.bnl.gov/nufo/world.asp**		**User Facility Agreements** are arrangements permitting private parties to conduct research and development using unique facilities or equipment at a laboratory. Many specialized centers of excellence exist at DOE's laboratories and facilities. The laboratories have capabilities in state-of-the-art instrumentation for detection and measurement and analysis of a wide range of physics and atomic and nuclear science.	Use of facilities is subject to availability and must not interfere with any mission programs. Agreement can be put in place quickly – in some cases, in 2 to 4 weeks time. The industrial partner directs the activity that occurs within the framework of the agreement. A Non-Federal Work-for-Others Agreement may be negotiated concurrently. Examples of industry use are fabrication, calibration, testing, and	For proprietary R&D, the laboratory is paid for the full cost of the activity. If the work will be published, cost can be adjusted.

DOE	Mechanism & Authority	Description	Features/Characteristics	I.P. & Resource Commitment
			evaluation of products and processes.	
Work-for-Others (WFO) Agreements *Authority: DOE M 481.1-1A directive, Economy Act of 1932, as amended 31 United States Code U.S.C. 1535, the Atomic Energy Act of 1954, 42 U.S.C. 2001 et seq., Sections 31, 32,and 33.* **http://www.lbl.gov/Workplace/CFO/SPO/Transmittal_Letters_and_Internal_Forms/Internal_Forms.htm** **http://www.ornl.gov/adm/wfo/exthome.htm**		**Work-for-Others (WFO) Agreements** permit DOE laboratories and facilities to conduct work for other federal agencies and non-federal entities (including state and local governments, universities) on a reimbursable basis.	The work must pertain to the mission of the laboratory or facility, may not conflict or interfere with DOE Programs, and can not directly compete with capabilities that are available in the private sector.	Intellectual property rights are negotiable, but generally belong to the user or sponsor under a DOE class waiver. Sponsor covers the cost of all Laboratory work (including personnel and materials) to be completed under the Statement of Work signed by both parties.
Non-Disclosure Agreements *Authority: Title 18, United States Code, Section 641* **http://www.lanl.gov/orgs/tt/partnering/sample_agreements.shtml**		**Non-Disclosure Agreements** protect proprietary information exchanged between parties during initial interactions and discussions between the Laboratory and another party on specific technical areas	It is frequently used to cover initial interactions between the Laboratory and a potential industrial partner. An agreement normally covers a disclosure term of one year, but can be renewed.	No Intellectual Property or fees result from this type of agreement.
Other Transactions (OT) (*a relatively new mechanisms for DOE, used in a very limited capacity.)* *Authority: 42 USC 7256 - EPACT 2005, Section 1007 – "Other Transactions" - grants the Secretary authority to enter into*		The purpose of this mechanism is to attract collaborative partners and otherwise unreachable technologies that would be uninterested in partnering through other agreements such as a CRADA. Other Transactions are : • a transaction other than a	Two different regulations/instruments • OTs for prototype projects - if purpose is to acquire goods and services for DoD. - called "Other Transactions." • OTs for research - if purpose is stimulation and support of a	To maximum extent practicable, non-Federal parties provide at least 50% of the resources If this amount of cost sharing is impractical, then must determine whether other factors show recipient commitment to project

DOE	Mechanism & Authority	Description	Features/Characteristics	I.P. & Resource Commitment
transactions other than contracts, cooperative agreements, and grants subject to the same terms and conditions as DoD under Section 2371 of Title 10 U.S.C. **http://professionals.pr.doe.gov/ma5/MA-5Web.nsf/FinancialAssistance/TechnologyInvestmentAgreements?OpenDocument**		contract, grant, or cooperative agreement • Not subject to procurement laws, FAR, DEAR, or DOE Assistance Regulations • Potentially many kinds of instruments	public purpose authorized by law. -called "Technology Investment Agreements" (TIAs). DOE has decided not to develop OT guidance for acquisitions at this time – developed guidance only for assistance	success.
	Small Business Innovation Research Program (SBIR) and Small Business Technology Transfer Program (STTR) *Authority: PL 92-219 (Small Business Innovation Development Act of 1982) Section 9(j)(3) of the Small Business Act (15 U.S.C. 638(j)(3)) (as amended by Public Law 106-554)* **http://www.science.doe.gov/sbir/**	The **SBIR and STTR** are both three phase award programs geared for U.S. owned small businesses to develop technological innovation to meet federal agency research and development needs. **STTR** projects must involve substantial (at least 30%) cooperative research collaboration between the small business and a non-profit research institution.	Research topics are offered through a solicitation process. **SBIR** and **STTR** have three distinct phases. For example, **SBIR Phase I** explores the feasibility of innovative concepts with awards up to $100,000 for about 9 months. Only **Phase I** award winners may compete for **Phase II**, the principal R&D effort, with awards up to $750,000 over a two-year period. In **Phase III**, non-Federal capital is used by the small business to pursue commercial applications of the R&D. Also under **Phase III**, Federal agencies may award non-SBIR/STTR-funded, follow-on grants or contracts for products or processes that meet the mission needs of those agencies, or for further R&D.	Intellectual Property Rights are normally retained by the small business.
	Technology Investment Agreement	**Technology Investment Agreement (TIA)** is a special type of assistance instrument used to	**Technology Investment Agreement – Cooperative Agreement:** A legal instrument	**TIA Cooperative Agreement's** intellectual property provisions comply in

DOE	Mechanism & Authority	Description	Features/Characteristics	I.P. & Resource Commitment
	Authority: 10 CFR Part 603, PL 109-58 Energy Policy Act of 2005, Section 1007 – Other Transaction Authority *10 U.S.C. § 2371* Template: **http://professionals.pr.doe.gov/ma5/MA-5Web.nsf/FinancialAssistance/TechnologyInvestmentAgreements?OpenDocument.** **http://professionals.pr.doe.gov/ma5/MA-5Web.nsf/WebAttachments/FAL2006-03/$File/FAL2006-03.doc**	increase the involvement of commercial firms in the Department's RD&D programs. A TIA may be either a type of **cooperative agreement** or a type of assistance **transaction** other than a cooperative agreement, depending on the intellectual property provisions. A TIA may be either expenditure based or fixed support.	that is a type of cooperative agreement with more flexible provisions tailored for commercial firms, but with the intellectual property provisions in full compliance with the DOE intellectual property statutes. **Technology Investment Agreement – Other Transaction:** A legal instrument that is an assistance transaction other than a cooperative agreement or a grant, because its intellectual property provisions vary from the Bayh-Dole statute and 42 U.S.C. 2182 and 5908, which require the Government to retain certain intellectual property rights and require differing treatment between large businesses and nonprofit organization or small businesses. An officer of the Department who has been appointed by the President by and with the advice and consent of the Senate and who has been delegated the authority from the Secretary must approve the award of a TIA	full with DOE I.P. statues. **TIA Other Transaction's** intellectual property provisions vary from the Bayh-Dole statute and 42 U.S.C. 2182 and 5908.
Equipment Gift Agreement				
Educational Partnership Agreement				