



Technology Transfer Training and Education Resources

Section O

Introduction

Technology transfer is a hybrid discipline that draws from many traditional fields. Information

relevant to technology transfer is found through a variety of resources on marketing, intellectual property, licensing and technology management to name just a few. The Training and Education

portion of this handbook contains technology transfer basic briefings for reference.

A number of web sites are listed here that contain valuable background and tools for technology transfer professionals. Some have briefings on the basics of technology transfer. Others have links to professional journals, flow charts of technology transfer processes, academic degree programs in technology transfer, news articles and new books. The Department of Agriculture Tech Transfer Information Center maintains an incredible directory of resources. Most sites on this list have links to a wide variety of other sites. Some sites have their own search capability.

To get started on analyzing a patent portfolio, check out some of the number of commercial sites like Mogee. A few, like Intellectual Property Network, offer incredible resources for free. Interested in a product assessment for the US market for \$200.00? Check out WIN Innovation Center. Many sites maintain calendars for technology transfer meetings and society conferences. Such meetings often have educational sessions on their agendas. A few sites, like the Society of Automotive Engineers (SAE), have excellent directories of companies and professional organizations by industry segment. The NASA HQ site will link to all of the Regional Technology

Transfer Centers (RTTCs).

For science and technology activity at the state level, check out www.ssti.org. No one location will always provide everything, so check periodically for new resources. The web sites suggested here are current as of the update of this handbook. They are subject to change often. Just using “technology transfer” on several different search engines will provide a plethora of resources. Many academic institutions have technology transfer operations that are focused on licensing. Do a search on a few technology transfer terms such a “commercialization” or “market analysis” to get started.

Other Government Web Sites

www.dtic.mil/techtransit

DoD Office of Technology Transition

TechTRANSIT provides access to Department of Defense technology transfer programs, policies, and resources. It promotes partnering opportunities between the private sector and defense labs, improves accessibility of technology transfer information activities. Information about the Technology Transfer Office Charter, its programs, its mission, and goals is found in “About T²O”. Links are provided to labs and to Offices of Research and Technology Applications. The “Reference Room” provides information on DoD technology transfer policies, laws, and publications. “Business Opportunities” offers links to technology partnership opportunities. The “Meeting Room” hosts a calendar of upcoming meetings of interest. “Accomplishments” showcases various highlights and achievements in the technology transfer area. “News-Comments-Subscribe” is where the latest technology transfer news is found. Do not overlook the “Feature of the Month”.

www.uspto.gov

US Patent and Trademark Office

The United States Patent and Trademark Office (USPTO) site features general information on

USPTO services, points of contact, laws and regulations covering patents, and searchable patent databases. Through the issuance of patents, the US Patent Office encourages technological advancement providing incentives to invent, invest in, and disclose new technology worldwide. The registration of trademarks assists businesses in protecting their investments, promoting goods and services, and safeguarding consumers against confusion and deception in the marketplace. Disseminating both patent and trademark information promotes an understanding of intellectual property protection and facilitates the development and sharing of new technologies worldwide.

www.atp.nist.gov

DoC Advanced Technology Program

The Advanced Technology Program (ATP) bridges the gap between the research lab and the market place, stimulating prosperity through innovation. Through partnerships with the private sector, ATP's early stage investment is accelerating the development of innovative technologies that promise significant commercial payoffs and widespread benefits for the nation. As part of the National Institute of Standards and Technology, the ATP is changing the way industry approaches R&D, providing a mechanism for industry to extend its technological reach and push out the envelope of what can be attempted.

www.nalusda.gov/ttic

DoA Tech Transfer Information Center

Your starting point to understand what tech transfer is, key organizations, basics on patents, CRADAs, licensing and more. Resources on tech transfer research, models and processes, education programs, journals list, case studies and events calendar. New technology lists and databases,



Federal tech transfer offices, extensive links to related sites, Agriculture Research Service resources, contacts, and news. New technology resources include bibliographies and Science Fair help, business assistance, funding organizations and publications for starting or funding a new business.

www.nctn.hq.nasa.gov

NASA Commercial Technology Network

The NASA Commercial Technology Network encompasses organizations throughout the US that are sponsored by, and affiliated with, the NASA Commercial Technology Program. These organizations provide unique expertise and services to US enterprises to facilitate and assist the transfer; development and commercialization of NASA sponsored technology. The network includes the Commercial Technology Program offices at NASA headquarters and field centers; specialized technology transfer commercialization centers and services; and other affiliated organizations and services. Check out the databases and online NASA publications.

Societies and Associations

www.federallabs.org

Federal Laboratory Consortium for Technology Transfer

The mission of the FLC is to add value to the federal agencies, laboratories, and their partners to accomplish the rapid integration of research and development resources within the mainstream of the US economy. The Consortium creates an environment that adds value to and supports the technology transfer efforts of its members and potential partners. The FLC develops and tests transfer methods, addresses barriers to the process, provides training, highlights grass-roots transfer efforts, and emphasizes national initiatives where technology transfer has a role. For the public and private sector, the FLC brings laboratories together with potential users of government-developed technologies by the FLC Laboratory Locator Network and regional and national meetings. Use this

site for good background and links to many resources.

www.t2s.org

Technology Transfer Society

The Technology Transfer Society (T2S) shares methods, opportunities and schools of thought with the technology transfer community through programs, publications, forums, an annual conference and other services designed to provide resources of information and contacts. The T2S publishes the Journal of Technology Transfer, the bi-monthly T²Squared newsletter, and an exhaustive proceedings of the Technology Transfer Society. The annual meeting features technology transfer professionals presenting the latest topics, and allows international technology matching and networking opportunities. The membership is drawn from academic, federal and industry.

www.autm.net

Association of University Technology Managers

AUTM[®] is a nonprofit association of more than 2,300 technology managers and business executives who manage academic intellectual property. AUTM's members represent over 300 universities, research institutions, teaching hospitals and a similar number of companies and government organizations. Universities transfer technology to facilitate the commercialization of research results for the public good; reward, retain, and recruit faculty; induce closer ties to industry; generate income and promote economic growth. AUTM membership offers an annual licensing survey and results of other research activities; membership directory; annual and regional meetings; professional development courses; AUTM publications and public education. This site provides clear explanations of licensing terms and training opportunities.

www.usa-canada.les.org

Licensing Executive Society

The Licensing Executives Society, (LES), is a business-oriented association and its members include business executives, scientists, engineers, academicians, lawyers, patent and trademark attorneys, government

officials and others from large, medium and small companies, independent firms, universities and R&D organizations, government organizations and consulting firms. A number of educational books, pamphlets, video and audiotapes, and other educational materials are available for purchase. The LES technology transfer and licensing journal, LES NOUVELLES is published quarterly. It includes articles on timely licensing topics, information about upcoming meetings, and reports from member societies and committees. A bi-monthly newsletter, containing up-to-date information on LES programs activities. LES also publishes a Technologies Needed listing, updated regularly. Updated annually, the LES Membership Directory includes contact information for more than 9,000 licensing professionals throughout the world, all of who are members of one or more LES member societies. Listings are provided alphabetically, with cross-referencing to geographic and company name. The "link" for the MIT- Awards Program is an excellent site on inventions. Now you can learn about what lead to Scotch Tape, the WW II invention of Hedy Lamar and the woman who invented the disposable diaper!



www.iriinc.org

Industrial Research Institute

The mission of the Industrial Research Institute (IRI) is to enhance the effectiveness of technological innovation in industry. Many services are limited to members only. Institute purposes include: (1) Identify and promote effective techniques for the organization and management of research, development, and engineering in support of technological innovation. (2) Encourage high standards in technological innovation. (3) Develop methods for determining the effectiveness of technological innovation, and promote an understanding of the value of technological innovation to the economy, industry, and society. (4) Strengthen understanding

of business issues by technology leaders as well as business leaders' understanding of the technological innovation process. (5) Monitor and clarify government policy issues that relate to technological innovation, act as an effective source of information to the U.S. government, and afford member companies opportunities to influence policies. (6) Foster cooperation on a worldwide basis with academia, government, and other organizations active in technological innovation. (7) Provide member-company representatives a forum for building a network of contacts among their peers. Industry recognizes that research and development are indispensable to the security and progress of a nation. Concern for improvement of the environment, conservation of resources, and a better life for all persons underlie the importance of research. A 130 billion dollar enterprise, industrial research and development programs in the United States utilize the services of well over one-half million scientists and engineers.

www.pdma.org

Product Development Management Association

The Product Development Management Association (PDMA) is a volunteer-driven, not-for-profit organization with 80 percent of its members being corporate practitioners of new product development and the remaining 20 percent split evenly between academics and service providers. Its mission is to improve the effectiveness of people engaged in developing and managing new products - both new manufactured goods and new services. This includes facilitating the generation of new information, helping convert this information into knowledge in a usable format, and making this new knowledge broadly available to those who might benefit. Enhanced product innovation represents a desirable and necessary economic goal for firms wishing to achieve and retain a profitable competitive advantage in the long term. PDMA publishes papers that include profiles and compensation of new product professionals, measuring product development success, as well as trends and best practices in managing new product development. PDMA also has an annual international conference, a

quarterly newsletter, a number of regionally initiated conferences on specialized topics of current interest and "The Journal of Product Innovation Management" that is published six times per year.

www.sae.org

Society of Automotive Engineers

If your technology might have a ground vehicle application-START HERE. Many AFRL researchers belong to the aerospace part of with the Society of Automotive Engineers (SAE). Check out the Cooperative Research Program using the ARFL/HE Computerized Anthropometric Research and Design (CARD) laboratory for a superb example of Air Force needs being synergistic to automotive design needs. What do cars, aircraft, trucks, off-highway equipment, engines, materials, manufacturing, and fuels have in common? SAE. The Society of Automotive Engineers is your one-stop resource for technical information and expertise used in designing, building, maintaining, and operating self-propelled vehicles for use on land or sea, in air or space. Nearly 80,000 engineers, business executives, educators, and students from more than 97 countries form a network of members who share information and exchange ideas for advancing the engineering of mobility systems. The technical committees write new aerospace and automotive engineering standards. Thousands of technical papers and books are published each year. SAE's Cooperative Research Program helps facilitate projects that benefit the mobility industry as a whole. Professional development activities include seminars, workshops, and continuing education programs. Local sections meetings and activities provide an opportunity to network with colleagues. The commitment to society is demonstrated daily through local, national, and international public awareness programs that promote vehicle safety and maintenance and energy resource conservation. The SAE Foundation is involved in the engineering related education of children, teachers, college students, and faculty. Industry and faculty awards provide recognition to outstanding contributors in the profession. Founded in 1905, SAE's people, strong technical

base, and vision are dedicated to serve the professional needs of engineers and the transportation needs of humanity.

Air Force Partnership Intermediaries

www.nmt.edu/~ttsg/links

New Mexico Tech

The web site for Technology Transfer Support Group has an excellent section on education interaction. The Tech Transfer mechanisms are updated quarterly. An impressive listing of CRADAs, EPAs and SBIRs on the first page documents their long standing successes.

www.gerc.eng.ufl.edu/gcatt

Gulf Coast Alliance for Technology Transfer

The Gulf Coast Alliance for Technology Transfer (GCATT) is an alliance of federal and state organizations allied to foster the climate of technology transfer and to enhance industrial and economic development by the transfer of member technologies from the public to the private sector. GCATT was launched in August 1992 and serves as an Air Force partnership intermediary. The GCATT Concept of Operations contains the guiding principles and expectations as an innovative partnership of federal and military laboratories, state universities and community colleges in Northwest Florida and Southern Alabama. Core technology areas include:



computational arts and software, equipment, performance, environmental science and engineering, high magnetic and energy fields, human performance and protection, imaging and sensors, management assistance and services, and materials development

www.nystec.com

New York State Technology Enterprise Corporation

The New York State Technology Enterprise

Corporation (NYSTEC) is a technology engineering and commercialization company. A not-for-profit public benefit corporation, NYSTEC identifies market opportunities and leverages the technology base in New York State to define and develop new high-tech solutions for government and industry. After distinguishing a market need, NYSTEC works as a partnership intermediary for the Air Force Research Laboratory Information Directorate and with universities, technology entrepreneurs, defense contractors and other companies to develop solutions. These solutions include engineering services, process improvements, product enhancements and completely new products that can be sold in non-defense markets. NYSTEC's ultimate goal is to generate financial growth for the company and its partners thus creating new economic opportunities in New York State.

www.wtn.org

Wright Technology Network

Wright Technology Network (WTN), a not-for-profit Ohio corporation, is part of Ohio's Thomas Edison Program that links technology providers and users to create commercial opportunities. WTN is a Air Force partnership intermediary for the AFRL technology directorates located at Wright Patterson Air Force Base. WTN works with NASA, US DoE, and U.S. Environmental Protection Agency (EPA). WTN uses these strategic partnerships as sources to find the right engineer or scientist who can help a business. WTN provides proven methods for accessing expertise and technology in AFRL and other federal, state and private resources. WTN assists industry in developing products and processes by commercializing Air Force technology by providing private company awareness of potential solutions to industry problems, and by identifying the needed technology and streamlining procedures to obtain it. WTN identifies companies that have application for technologies from the federal laboratory directorates they support. Regional alliances provide access to, and generate effective use of, all public sector technology and support resources.

DoD Intermediary

www.montana.edu/techlink

TechLink

The MSU TechLink Center was established at Montana State University in Bozeman, Montana in 1996, as a Department of Defense link to the technology-related needs of industry with technology available from DoD laboratories. Professional staff expertise includes industrial business and technology development know-how. Staff members are expert in accessing a variety of resources and partners, including universities, public and private business assistance organizations, and federal agencies. Special funding is available for travel to TechLink through AFRL/XPTT. Techlink's focus areas include aerospace, advanced materials, agriculture, forest and wood products, photonics and sensors, biomedicine and biotechnology, electronics and telecommunications, environmental technologies, and software and information technologies. As part of Montana State University's outreach activities, TechLink's mission is to support both public and private sector programs related to technology transfer and commercialization. Techlink's goal is to assist industry and ultimately support economic development in Montana and the Northwest. They assist industry and ultimately support economic development in Montana and the Northwest. Clients are assisted by an ongoing process of adapting, integrating, and commercializing technology. TechLink offers a range of services to assist clients with the transfer and commercialization of technology, including technology assessment, technology scouting, partnering assistance, licensing assistance and commercialization support.

Other Organization Web Sites

www.battelle.org/glitec

Great Lakes Industrial Technology Center

Great Lakes Industrial Technology Center (GLITeC) is one of the U.S. Regional Technology Transfer Centers and provides technology and business assistance to industry in the Great Lakes

region (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin). GLITeC works to commercialize NASA Glenn Research Center technologies throughout all 50 states. Using targeted technology management services, GLITeC works with industry to acquire and use NASA technology and expertise bridging the gap between federal discovery and commercial application. GLITeC services are designed to help companies identify, acquire, adapt, and utilize the federal technology and capabilities. GLITeC is part of a NASA program to help defense-related companies diversify into commercial products and markets. GLITeC draws on NASA, federal laboratories, state and federal technology application centers, Battelle, and university centers for the wide range of technical expertise required. GLITeC can locate potentially relevant technology and technical expertise, can produce associated feasibility and market studies, and can assess alternative applications for existing technology. Individual projects are tailored to meet specific client requirements. This web site has good links to other resources.

www.ssti.org

State Science & Technology Institute

State Science & Technology Institute (SSTI) is a non-profit organization dedicated to improving government-industry programs that encourage economic growth through the application of science and technology. The Institute strives to advance cooperation between the states and the federal cooperative technology programs for more effective economic development. SSTI provides assistance to state and federal S&T policy makers and program staff through four service areas: (1) Information: SSTI serves as a central resource center for current and historical information on cooperative technology programs. SSTI publishes the SSTI Weekly Digest, an electronic newsletter summarizing issues for the science and technology community. (2) Education: SSTI holds an annual conference for the professional development and education of state and federal science and technology leaders. SSTI sponsors workshops, courses, and seminars designed to assist

S&T program staff in policy formation, evaluation and program management. (3) Research: The Institute conducts policy research and impact analyses for state and federal S&T programs published through annual and biennial reports, Issue Briefs, special reports, program papers, and the Compendium of State and Federal Cooperative Technology Programs. (4) Facilitation: SSTI encourages greater communication and cooperation between state and federal science and technology programs, including sponsorship of meetings designed to encourage dialogue between the states, federal agencies, industry, and laboratories.

www.delphion.com

Delphion Intellectual Property Network

Internet Capital Group and IBM formed Delphion, to create an online marketplace for buyers and sellers of intellectual property. Delphion, acquired IBM's existing Intellectual Property Network (IPN) as the foundation for an online marketplace to enable users to search, analyze, buy, sell and license millions of patents and other intellectual property across a variety of industries. The IPN began within IBM in response to the growing need of individuals, organizations, and governments for more efficient methods



of exploring intellectual property information. The IPN evolved into a source for finding and viewing patent information and fee-based services such as downloads of high-quality patent image files. The Delphion IPN has evolved into a web site for searching, viewing, and analyzing patent documents. The IPN provides free access to a wide variety of data collections and patent information. Searching is fast and easy. Along with simple keyword search, IPN offers alternative searches by patent number, Boolean text, and advanced text that

allows for multiple field searching. Browsing provides an organized approach to searching for patents. All collections are cross-referenced and forward and backward linked to all other referencing documents for immediate access to related information. The IPN also offers access to value added and third party services on a fee basis.

www.mogee.com

Mogee Research and Analysis Associates

Mogee Research & Analysis Associates provides custom international technology assessments and competitive intelligence. Using unique analytical methods, Mogee can help anticipate major new product introductions by competitors or companies outside of your industry. Mogee provides custom patent analysis and consulting services for R&D management, technology licensing, patent portfolio management, competitive intelligence, public policy, and economic development. Mogee conducts analyses at the level of technologies, organizations, inventors, states and regions, and countries. Mogee uses patent-based indicators to help measure the amount of technological activity, life cycle stage, technological significance, commercial potential, and corporate technology strategy. Mogee's methodology has been tested on mature, emerging, and growing technologies and validated by comparison with expert opinion, as well as other quantitative measures.

www.seeport.com

Foresight Science and Technology

This site has a GSA Catalog pricing their ten or more services evaluating commercial potential, technology niche analysis, deal structure, and others. Prices vary on quantity. Listed under their "Manuals and Publications", are several interesting reports on SBIR/ STTR Commercialization, Internet Training, a Small Business Guide to R&D Funding, and others.

www.knowledgeexpress.com

Knowledge Express

Knowledge Express (KE) combines available

technologies from corporations, government, and universities on its KE Tech Transfer Market, with information resource databases for licensing decisions. Technology listing free of initial charges or transaction based fees. Customers have exclusive and confidential access to the Tech Transfer Market database and access to a database research service

www.rti.org/technology

Research Triangle Institute

The Research Triangle Institute (RTI) offers the following services to transfer federal laboratory technology into commercial products. (1) Technology Assessment; to identify promising technologies, access applications and commercial potential; to identify unique attributes of technology and determine competitive advantage; to assess commercial potential of patent portfolios; and to estimate royalty value and assess exclusive and nonexclusive licensing options. (2) Technology Marketing; to develop effective marketing strategies; to prepare technical bulletins describing and promoting technologies to industry; to conduct targeted presentations to potential commercialization partners; and to locate and secure licensing partners. (3) Market-Led Transfer; to identify priority industry needs for new technologies; to collaborate with experts and conduct workshops to synthesize technical and business requirements; to distribute problem statements seeking proposed solutions to industry needs and to evaluate proposed solutions for the best, most cost-effective approach. (4) Commercial Opportunity Workshops; to identify and inform industry participants; to provide forum for industry to discuss technical issues with laboratory staff and to encourage industry to submit to define requirements and project tasks for successful development and commercialization plans and assist laboratory in assessments. (5) Cooperative Projects; commercialization and to develop CRADAs; and to support negotiation in licensing and cooperative agreements. (6) SBIR Program Support; to review proposals for commercial feasibility; to provide market assessment and to provide business develop-

ment assistance and access to corporate partners. (7) Program Outreach; to develop brochures and conduct outreach campaigns; and to develop innovative strategies for government/industry collaboration

www.innovation-institute.com

WIN Innovation Center

Services are limited to providing inventors with commercial feasibility analysis of the invention or new product ideas. WIN Innovation Center will work with government laboratories interested on US market potential. Their fee is \$175.00 and they are not an invention development or marketing service. For a reality check on commercial potential, check out the evaluation statistics on 400 of the 4500 inventions evaluated between 1991 and 1998. The WIN Innovation Center (formerly known as the Wal-Mart Innovation Network) is an inventor/innovator assistance service that provides inventors, entrepreneurs, and product marketing/manufacturing enterprises with an objective third-party analysis of the risks and potential of their ideas, inventions, and new products. The Innovation Institute, the Center for Business and Economic Development of the College of Business Administration at Southwest Missouri State University, Wal-Mart Stores, Inc., and WIN Affiliates provide a two-component evaluation. (1) Preliminary Innovation Evaluation Service (PIES), and, (2) Product Assessment Service (PAS). Wal-Mart started evaluating products in 1993 as part of the Support American Made program. WIN focuses on invention evaluation. The result is a "Evaluation Potential New Products" manual that presents the 42 criteria evaluated in 13 pages.

www.yet2.com

Yet2.com

Membership is free and allows you to log in to search licensable technology. This is a new virtual technology marketplace with high-powered founding sponsors. Listing fees start at \$500 for 5 technologies for one year. The "Using this Site" path answers a lot of questions quickly.

www.uventures.com**University Ventures**

Another registration required web access portal, University Ventures is technology transfer from the university perspective. Government laboratory technology can be posted without listing fee nor membership fee. Ventures assesses a fee on the buy side of consummated license agreements. This site has one of the very best “Links and Resources” section. Explore their “Technology Wish List” option.

www.techex.com**Intellectual Property Technology Exchange**

Founded by Yale and linked to the Harvard Biomedical Community Technology Gateway, this is another “register to use” site offering listing, searching and technology bundling services for members. It is one to explore if your technology could have medical applications.

www.prtm.com**Pittiglio Robin Todd & McGrath**

PRTM offers services in product development; marketing & sales; operations & supply-chain management; customer service and support; integrated strategy and e-business engineering. PRTM has a strong background in aerospace, automotive, chemicals, computers, electronics, internet, medical devices, pharmaceuticals, semiconductors, software, and telecommunications. Check their “Surveys” for e-commerce statistics.

www.derwent.com**Derwent Thompson Scientific**

The sub title reads “ Value added patent and scientific information”. Go to the site map to see why. Patent information organized for use. Check out the bookstore for free publications on engineering patents grouped by industry. Check out their Engineering Industry Patents Profiles.

www.eggfactory.com**Egg Factory**

The Egg Factory creates and develops

significant innovations focusing on creating and managing transformational technologies, products and business models from ideas through market entry. The end goal is to see these opportunities commercialized by selling or licensing them to global companies. The Egg Factory only pursues innovative opportunities that pass five major hurdles: (1.) The opportunity must have the potential to produce \$1+ billion in annual revenues within five years of commercial launch by a global company. (2.) The opportunity must control/own a vast majority of the new space being created. (3.) The opportunity must be proprietary. (4.) The development horizon for the opportunity must be within three years. (5.) The opportunity must benefit society. The web site lists both active companies and those in the Egg Factory pipeline.



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