2011 ANNUAL REPORT
TO THE PRESIDENT AND CONGRESS

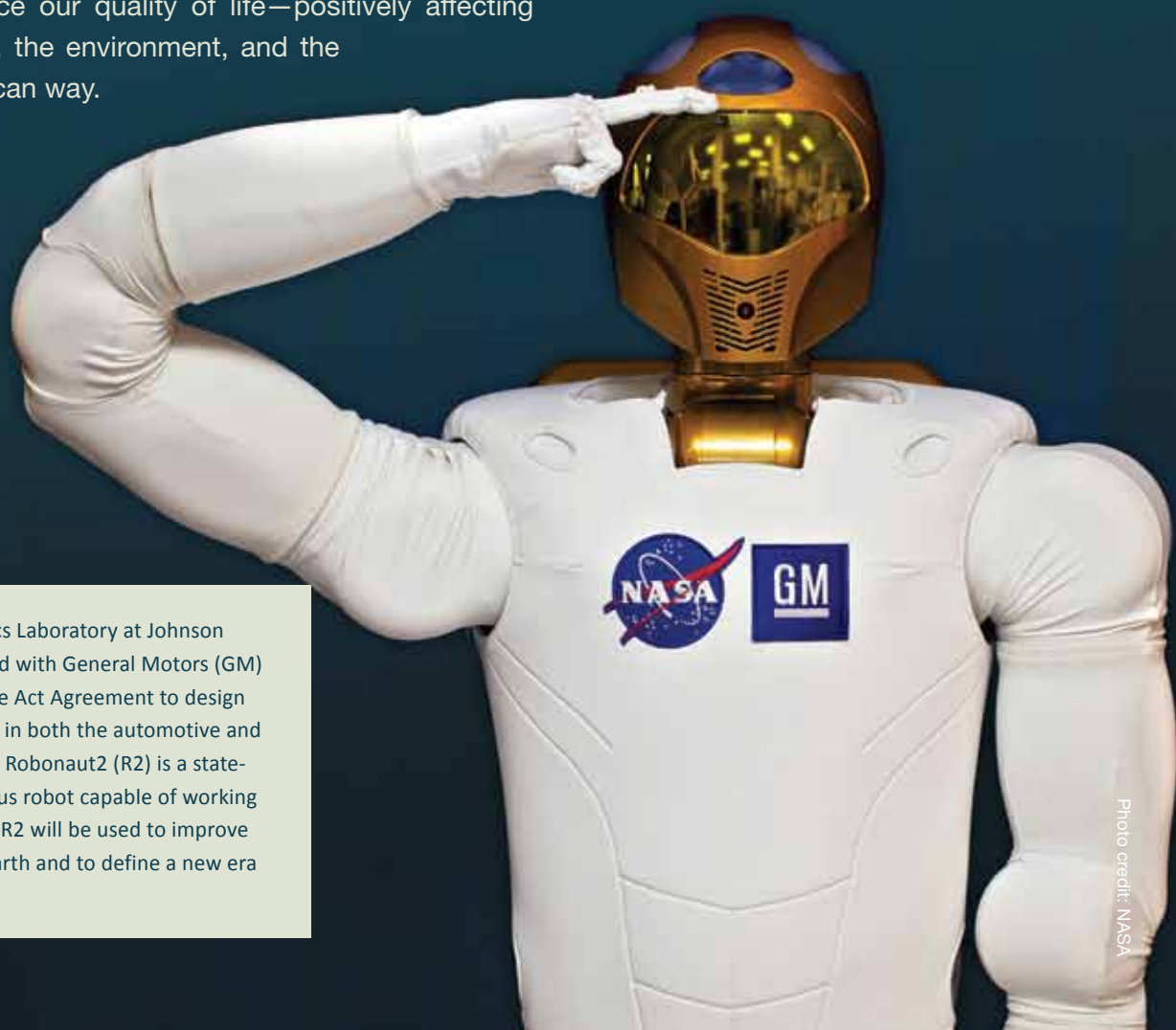
FLC™
FEDERAL LABORATORY CONSORTIUM
FOR TECHNOLOGY TRANSFER

Advancing Federal Research and Technology

Technology transfer is good for America

The FLC supports the federal laboratories in all aspects of their technology transfer endeavors. According to the most recent data provided by federal agencies, in FY 2010 there were **8,525** active Cooperative Research and Development Agreements in place between federal laboratories and external partners; **4,783** new inventions disclosed at federal facilities; **13,542** active licenses associated with federal lab technologies; and approximately **$144 million** in total licensing income associated with federal technology transfer activities.

These numbers translate to the sharing of knowledge, facilities, expertise, and creativity between the federal labs and partners from industry, academia, and state and local governments. They translate to a strong U.S. economy, jobs creation, and a competitive edge for U.S. businesses. Many technology transfer success stories impact our nation's economic security and our military strength. Others enhance our quality of life—positively affecting health, the environment, and the American way.



NASA's Dexterous Robotics Laboratory at Johnson Space Center (JSC) teamed with General Motors (GM) under a cooperative Space Act Agreement to design a humanoid robot for use in both the automotive and aerospace industries. The Robonaut2 (R2) is a state-of-the-art, highly dexterous robot capable of working side-by-side with people. R2 will be used to improve auto manufacturing on Earth and to define a new era of exploration in space.

Photo credit: NASA









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A Letter From the FLC Chair

Mojdeh Bahar

Technology transfer is now front and center on the national agenda, with new expectations and new opportunities. During 2011, the Congressional Technology Transfer Caucus was created, followed by a groundbreaking report issued by the Science and Technology Policy Institute on the current landscape of technology transfer and commercialization. In the fall came the America Invents Act—the most significant change to U.S. patent law since 1836—as well as a presidential memorandum on accelerating technology transfer and commercialization to support high-growth business.

Together, these milestones demonstrated the importance of technology transfer, as well as a growing recognition of its crucial role in creating jobs, encouraging economic development, and increasing America's competitiveness in the global economy.

At the same time, however, the constrained budget environment has made it more difficult for federal laboratories to pursue the kinds of activities needed to promote technology transfer. The Federal Laboratory Consortium for Technology Transfer (FLC) has risen to this challenge, enhancing its critical assistance to the laboratories in areas ranging from outreach and communication to education and training. As a result of the FLC's efforts, our federal laboratories are in a better position than ever to deliver on the promise of technology transfer.

For example, the FLC networks with the business community, local and state governments, and a wide range of public and private organizations that pursue innovation, entrepreneurship, and technology-based economic development. During the past year, those efforts connected federal laboratories around the country with numerous business partners, leading to the commercialization of new technologies related to energy, health, transportation, agriculture, and many other sectors.

The FLC has also helped raise the profile of technology transfer through a host of communication and outreach initiatives on behalf of the laboratories. We are especially proud of our new, online, Available Technologies search engine, which lets businesses quickly and easily find federal laboratories' inventions that are available for commercialization. This free search engine complements the FLC's Technology Locator service, and demonstrates our ability to leverage the collective resources of the nationwide federal laboratory system.

Tighter training and travel budgets have made it more difficult for laboratories to prepare the next generation of technology transfer professionals. The FLC is stepping up its efforts to fill that gap with webcasts and other online resources that will bring training directly to staff members.

Yet another way the FLC promotes technology transfer is through an awards/recognition program that honors the efforts of the federal scientists, researchers and others who are instrumental in commercializing innovations from the laboratories. These are the people who ensure that what gets paid for by the taxpayer gets used by the taxpayer—whether it is a lifesaving medical breakthrough, a more efficient and affordable source of energy, or a new technology that protects the warfighter.

Technology transfer is becoming increasingly important to America's future. And the FLC plays an essential role in achieving the goals set forth by Congress—making full use of technology transfer to increase the return on federal R&D investment, support national economic growth and competitiveness, and enhance agency missions.

On behalf of the members of the Federal Laboratory Consortium for Technology Transfer, I am pleased to present, in accordance with 15 U.S.C. 3710, the FLC Annual Report for Fiscal Year 2011 (FY 2011) to the President, Congress, and appropriate agencies.

Respectfully,

Mojdeh Bahar
FLC Chair

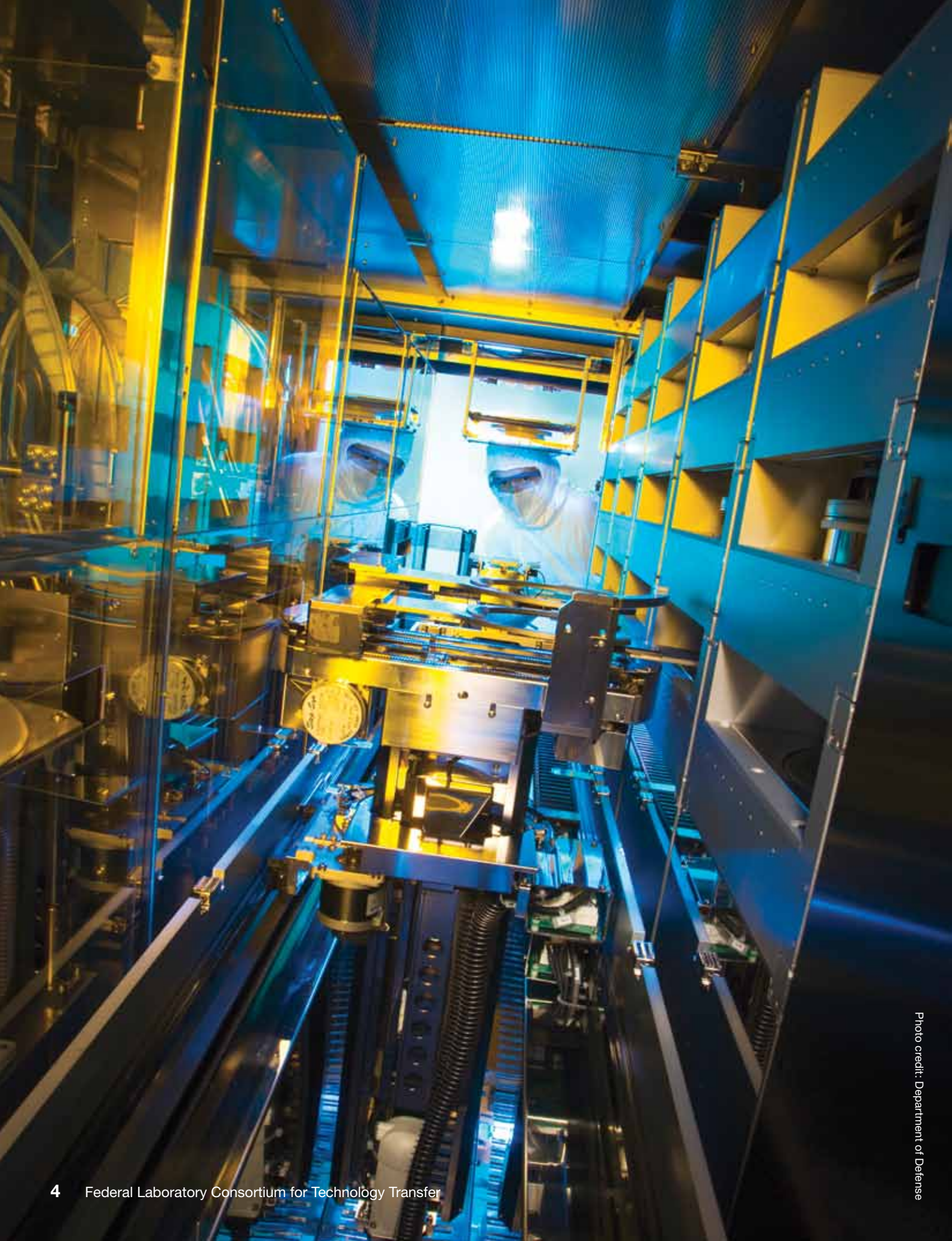


Photo credit: Department of Defense

Technology Transfer—Reaping the Benefits of American Research and Innovation

As the global marketplace becomes increasingly competitive, it is clear that American technology and scientific innovation are strategic assets that drive our nation's economic growth. Many of the most important technological developments have their beginnings in our federal laboratories. These nascent technologies hold the promise of sustained economic development and far-ranging benefits to society—from improved consumer products to increased public safety, a cleaner environment, and life-saving medical technologies. Technology transfer—the mechanism for moving these technologies out of the laboratories and into the marketplace—delivers on the promise of these technologies as well as on the government's investment in developing them.

Congress recognized that "it is in the continuing interest of the federal government to ensure the full use of the result of the nation's federal investment in research and development" and, as such, created the Federal Laboratory Consortium for Technology Transfer as the focal point for facilitating the federal government's technology transfer efforts.

The FLC—Enabling Science and Technology to Drive Economic Development

The Federal Laboratory Consortium for Technology Transfer (FLC), which was organized in 1974 and formally chartered by the Federal Technology Transfer Act of 1986, provides the nation's framework for developing technology transfer (T2) strategies and fostering T2 opportunities. The Consortium represents and serves the federal laboratory network—comprised of over 700 federal laboratories and 18 federal agencies—by supporting technology transfer efforts and bringing laboratories together with potential partners for the commercialization of government-developed technologies.

The FLC actively promotes the fullest application and use of federal R&D, seeking to maximize return on the federal R&D investment by providing the environment and resources necessary for successful T2. The FLC facilitates the rapid movement of federal laboratory research and technologies into the mainstream of the U.S. economy through the activities described in this Annual Report. These activities include advancing technology transfer by offering technology transfer education and training; serving as a gateway for industry, government, and academia to access federal R&D and partner with federal laboratories; conducting outreach to industry, the private sector, academia, state and local governments, and other technology-based organizations to encourage T2 partnerships; expanding communication and cooperation among industry, government, and academia; publicizing the FLC mission and T2 success stories; providing networking opportunities and T2 resources to the FLC membership and external parties; and recognizing the efforts of government technology transfer professionals.

The FLC has played a substantial role in forming partnerships and collaborations between federal laboratories and industry, academia, and state and local governments. Through the initiation of Cooperative Research and Development Agreements (CRADAs), licensing agreements and other T2 mechanisms, the FLC has assisted with the transfer of thousands of inventions to the private sector for further research, development, and commercialization.

The FLC is powered by the dedicated people of the federal laboratory system—the scientists, laboratory and agency representatives, and T2 professionals who transfer federally funded technology to the marketplace. The Consortium's national and regional leadership is comprised of experienced federal technology transfer professionals who are elected by the FLC membership to carry out this vital national effort.

Photo credit: ORNL

Certificate of Training

Education and Training

Successful technology transfer requires the diligence of federal laboratory professionals who are knowledgeable about technology transfer regulations; fully cognizant of the variety of T2 mechanisms available and their agency-specific nuances; and skilled in the art of making partnership, cooperative research, and patent and licensing agreements a reality. Technology transfer professionals also must stay abreast of legislative changes, best practices, and current trends such as social media to market available technologies and facilitate technology transfer.

For all of these reasons, one of the FLC's primary mandates is to provide education and training to federal technology transfer professionals throughout their careers. The education and training program also extends to federal scientists and other researchers who can play a major role in helping to commercialize their innovations. The FLC's comprehensive and highly regarded education and training program is the responsibility of its Education and Training Committee. The program is implemented through multiple channels: training events and courses, multimedia training materials, online resources, and printed publications.

Training Events and Training Courses

Because the FLC national meeting brings together technology transfer professionals and researchers from laboratories around the country, as well as members of industry, academia, and other technology transfer stakeholders, it is the ideal venue for the FLC's full-day training events. In FY 2011, the FLC's program consisted of three levels of training for technology transfer professionals, including a workshop on commercializing innovative technology geared to scientists, researchers, and technology transfer professionals. All courses and workshops met the requirements of the International Association for Continuing Education and Training (IACET), the internationally recognized organization for continuing education and training standards. The courses and workshops at the 2011 national meeting were attended by over 160 participants, many of whom received continuing education units (CEUs) certified through Montana State University.

> "I benefitted most from real-world examples of the partnerships between academia, government agencies, and corporate entities."
>
> *– 2011 FLC trainee*

Technology Transfer Fundamentals Training

Designed to introduce newcomers to the technology transfer (T2) field or as a refresher for T2 veterans, the day-long Fundamentals Training course provided a basic foundation in the background, concepts, and practical knowledge needed to transfer federally funded technologies from the laboratory to the marketplace. The course featured an introduction to the goals and methods of tech transfer, an in-depth workshop on Cooperative Research and Development Agreements (CRADAs) and other technology transfer mechanisms, and an introduction to intellectual property issues.

To help the federal laboratories meet their goal of recruiting the next generation of T2 professionals, the FLC offered 12 Fundamentals Training scholarships to students from Middle Tennessee State University, Tennessee Technological University, Vanderbilt University, and Fisk University.

Technology Transfer Intermediate Training—Track 1: Patent and Licensing Workshops

Designed for technology transfer professionals who have a basic foundation in the background, concepts, and processes of technology transfer or who have completed the Fundamentals training course, this interactive, day-long intermediate-level course was presented by a team of technology transfer veterans and featured two highly interactive workshops for technology transfer professionals, federal scientists, and engineers that focused on the patent and licensing process in the federal laboratory.

The Patent Workshop provided detailed information on the protection of intellectual property in federal laboratories, with a focus on the patent process. The Licensing and Negotiations Workshop examined the elements of an effective license, including such issues as intellectual property valuation and financial consideration, types of licenses and when to use them, sublicensing, R&D prior to product sales, gross vs. net sales, and diligence provisions. This workshop also addressed the licensing process in both government-owned and government-operated (GOGO) and government-owned and contractor-operated (GOCO) laboratories, and provided an overview of how to successfully negotiate a license agreement.

Technology Transfer Intermediate Training—Track 2: Workshop on Commercialization of Innovative Technology

This day-long, highly interactive intermediate-level workshop focused on how federal researchers, scientists, and professionals can interest investors and other business backers in their innovative ideas—increasing the odds of bringing inventions from "lab to life."

Technology Transfer Advanced Training Seminar

A panel of seasoned professionals representing technology transfer managers, practitioners, and industry presented a highly interactive seminar that examined issues of immediate significance to T2 leaders and managers. The FY 2011 Advanced Training Seminar focused on two major issues in separate sessions. The first session provided practical advice on policies for a laboratory's software innovations, including protecting against potential liabilities. The second session provided new ideas about how to harness the power of the Internet and digital media. Attendees learned how to tailor and integrate social media tools into their communications and marketing strategies. Both sessions included opportunities for participants to work through real-life scenarios, engage in problem-solving, and "think outside the box" to find new ways to commercialize technology.

> "The most helpful part of my training was the face-to-face contact with T2 professionals from other agencies and workshop discussions about common issues and concerns."
>
> *– 2011 FLC trainee*

Education and Training Materials and Publications

As a key part of its education and training program, the FLC produces indispensable publications that cover all aspects of technology transfer.

FLC Technology Transfer Desk Reference: A Comprehensive Guide to Technology Transfer is an in-depth reference guide that provides an extensive introduction to technology transfer and technology transfer initiatives and mechanisms. Newly revised and updated for FY 2011, this publication now also incorporates the previously separate ORTA Handbook, which detailed the responsibilities of Offices

of Research and Technology Applications (ORTAs) and other federal technology transfer office personnel. It includes discussions of the legislative origins and role of ORTAs, along with detailed information on technology transfer issues, mechanisms and procedures, and marketing and intellectual property. There is also a primer on patenting.

Federal Technology Transfer Legislation and Policy (known as "The Green Book") is a reference document for policy makers and technology transfer practitioners in the federal government that provides the principal statutes and presidential executive orders that comprise the framework of the federal technology transfer program.

To promote self-learning and serve a geographically diverse membership, the FLC has produced and distributes training materials such as the Technology Transfer Video Training Program, which is based on the training courses, seminars and workshops presented at the national meeting. Boxed sets of this professionally produced and packaged program, which include presentation booklets, DVDs and CDs, enable technology transfer professionals and others to participate in FLC training activities at the time and place that best fit their needs.

The FLC makes all of its education and training materials and publications available on its website, either through direct downloads or via purchase for a nominal charge to cover production and shipping.

Online Resources

In FY 2011, the FLC continued to update, improve, and ensure the currency of its Technology Transfer Training Resources Database (TRDB), a searchable database that resides on the FLC website and identifies current technology transfer training courses and resources within the federal laboratory system, the FLC, academia, and not-for-profit technology transfer organizations.

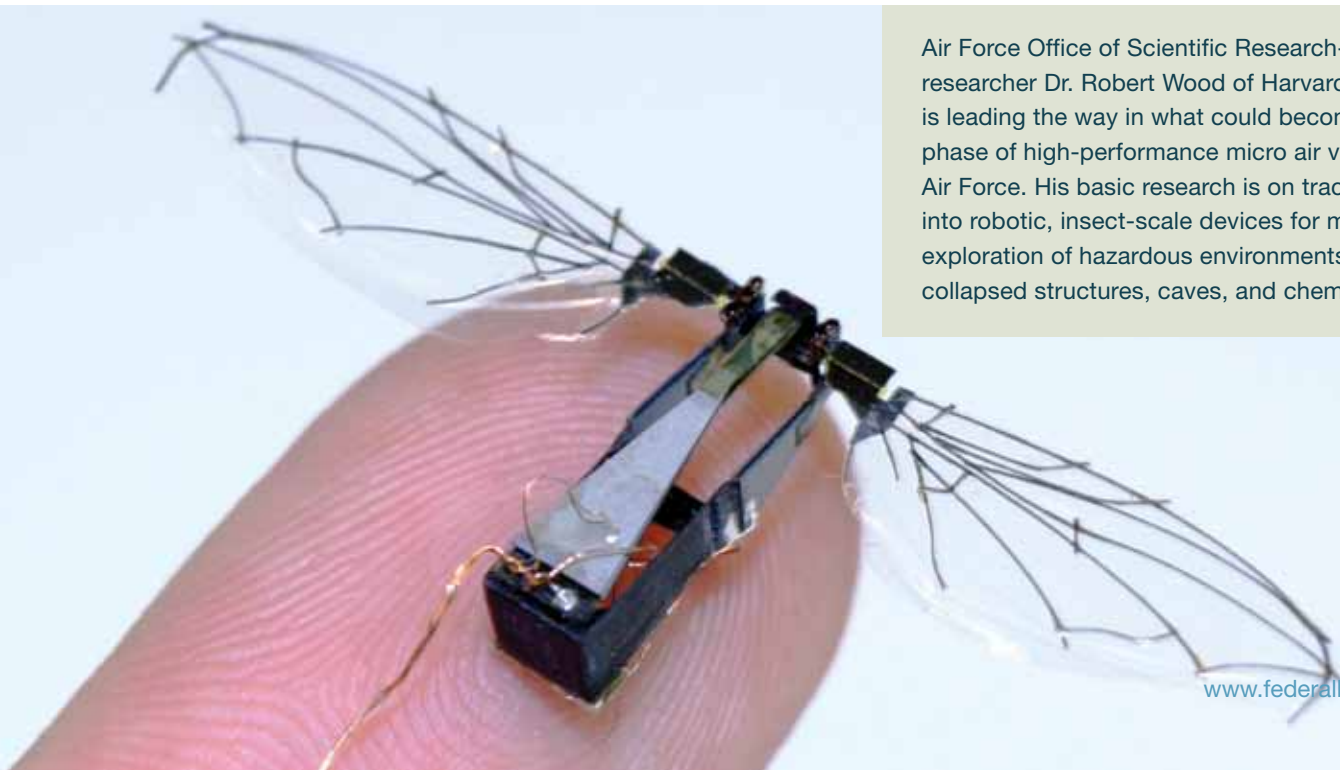
The FLC also maintains online references that help stakeholders identify different ways of working with the federal laboratories. They include:

- Federal Technology Transfer Mechanisms Database, a searchable electronic database that identifies the most common technology transfer mechanisms used by each federal agency, the authority that authorizes the use of the mechanism, the features and characteristics of the mechanism, a summary of how it is used, and links to agency websites for information about and samples/templates of the mechanisms.

- *T2 Mechanisms Matrix,* an "at-a glance" guide to the wide range of technology transfer mechanisms used at the various federal laboratories, identified by both agency and type of mechanism. Available both as a printed publication and online.

Outlook for FY 2012

The FLC plans to significantly expand its digital format outreach in FY 2012 to provide mobile and online education and training suited to busy professionals. New features will include e-publications, webinars, and other online resources that will present information in modules, easily updated to reflect changing policies, regulations and other topical issues. The FLC will also provide education and training on the recently enacted America Invents Act.



Air Force Office of Scientific Research-sponsored researcher Dr. Robert Wood of Harvard University is leading the way in what could become the next phase of high-performance micro air vehicles for the Air Force. His basic research is on track to evolve into robotic, insect-scale devices for monitoring and exploration of hazardous environments, such as collapsed structures, caves, and chemical spills.

Technology Locator

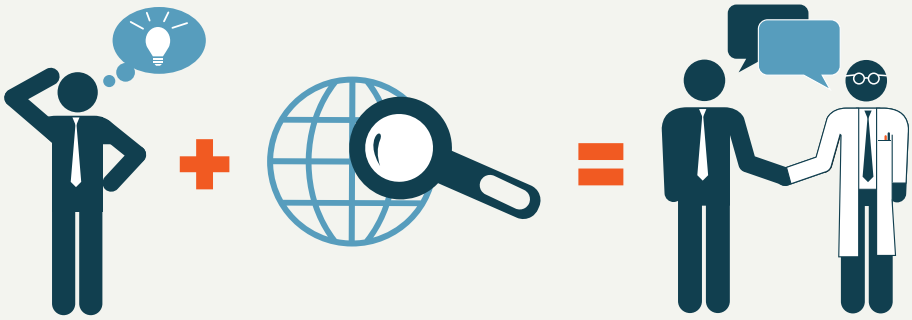
The FLC offers a free public service called Technology Locator that directly promotes and facilitates the technology transfer process. Through the FLC's network of laboratory representatives, the Technology Locator puts technology seekers in contact with federal laboratories that possess expertise and capability in the specific technology area sought. Technology Locator staff members match potential partners from industry, nonprofits, state and local governments, academia, and even other federal agencies and laboratories with appropriate technology resources within the federal laboratory system. Essentially, the service helps potential collaborators take advantage of the vast reservoir of technology and expertise located within federal laboratories. The Technology Locator facilitates technology transfer through "pull" and "push" mechanisms.

Technology Transfer Pull

The Technology Locator receives and reviews technology-related requests, for example, to solve a problem, improve a product or process, develop a technology, license an available technology, use a test facility, or in some manner collaborate with a government lab. The Locator then matches the requestor's specific need or area of interest with available technologies, facilities, capabilities, or expertise within the federal laboratory system.

Once the Technology Locator identifies a match, discussions take place between the requestor and the Laboratory Representative for the identified federal lab. Typical outcomes include agreements for the licensing of technologies, cooperative research, and technical advice from laboratory researchers to industry and other parties. The Technology Locator service follows up on all matches, such as providing contacts at additional laboratories if needed, to maximize technology transfer success.

The Technology Locator also handles requests for information about the FLC, the federal labs, and the Locator service. As such, the Locator serves as a point of entry to the FLC, and offers personalized service to navigate the federal laboratory system.



Technology Transfer Push

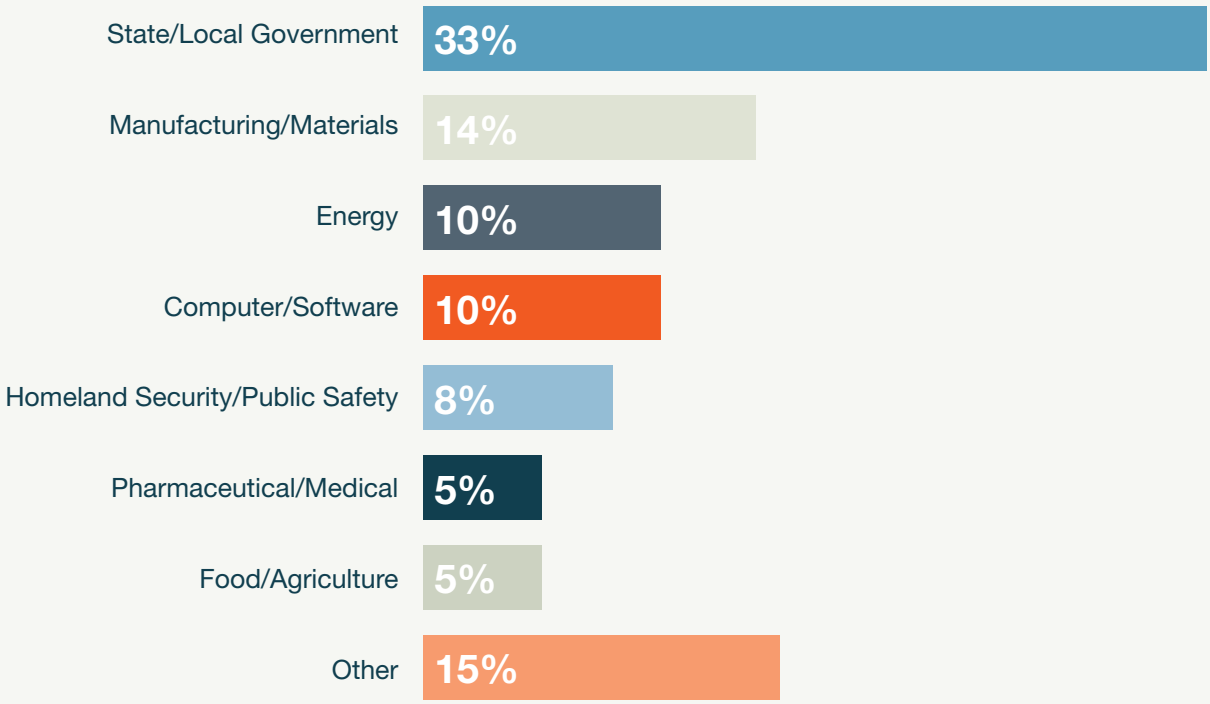
The Technology Locator service also works to push federal technologies out to industry and academia. The Technology Locator reviews these technologies and sends information about them to potentially interested parties and relevant industry sectors/groups.

Because awareness of the Locator service is a key to facilitating technology transfer, the Technology Locator actively conducts outreach to targeted groups (e.g., Manufacturing Extension Partnerships (MEPs), state economic development organizations, and universities) to inform them about the Locator service and the FLC. In addition, FLC personnel disseminate information about the Locator service when they visit labs and attend conferences and trade shows.

FY 2011 Technology Locator Activities

In FY 2011, the Technology Locator service received more than 200 requests through the FLC website, email inquiries, letters, telephone inquiries, trade show contacts, and referrals from federal laboratories. The following graphic represents these Technology Locator requests by category and type. Requests came from industry, government,

FY 2011 Technology Locator Requests by Category



Based on requests received from 10/1/2010 through 9/30/11 (FY 2011)

academia, and the public seeking assistance in the energy, computer/software, manufacturing/materials, homeland security/public safety, pharmaceutical/medical, and food/agriculture sectors, among others.

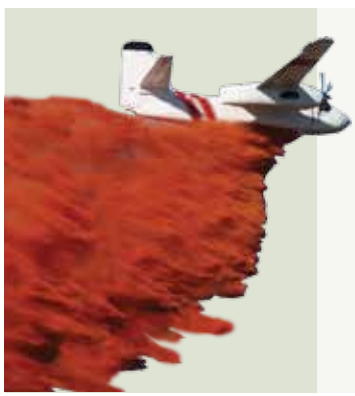
The following descriptions are just a few examples of Technology Locator successes in FY 2011. These demonstrate instances of American industries seeking available federal technologies for licensing and/or collaborative development, and the U.S. military seeking specific expertise from other federal labs. The Technology Locator also assisted the U.S. military with outreach to industry for improving military ground vehicle technology.

Apache Helicopter, Redstone Arsenal, Alabama, requested assistance identifying federal laboratory sources knowledgeable in speech, eye, and body-movement recognition useful to pilots in performing multi-task flight operations.

"The response from several federal laboratory representatives provided valuable insight to equip helicopter pilots with best-in-the-fight tools to execute the vital mission tasks during combat operations."
—Earl R. Tillman, Electronics Engineer

A global specialty materials manufacturing company is in contact with several federal laboratories to identify new materials applicable to the automotive and electronics industries that will improve overall system capability. Properties for materials being sought include improved product quality, reliability, safety, and environmental characteristics.

"The FLC Technology Locator was instrumental in providing us with points of contact at several federal laboratories to help identify technologies that have potential to be included in our product line."
—Senior Technology Scout



Researchers from the University of Rio de Janeiro, Brazil, were interested in collaborating with the U.S. Forest Service regarding technologies used to extinguish forest fires, and clothing and equipment used by U.S. firefighters.

"Representatives from the U.S. Forest Service and the University of Rio de Janeiro are in the process of exchanging information regarding firefighting techniques used to control and extinguish forest fires, and the clothing and equipment used by the firefighters in their respective countries."
—John Fehr, Forest Service - San Dimas Technology and Development Center

A world-class manufacturer of custom tailored materials requested assistance identifying new materials with specific characteristics that were developed at federal laboratories and are available for licensing.

"The Technology Locator identified federal laboratories with material development capabilities in our areas of interest. We started the nondisclosure process and are currently negotiating with federal laboratories for new materials with tailored properties for use in manufacturing products related to the automotive, petroleum production, and consumer products industries." —Director, Technology

Working With State and Local Governments

State and local governments are an important link in federal technology transfer, as they typically work closely with the businesses, universities, and other organizations that can benefit from the technological innovation that comes from federal laboratories. To this end, the FLC develops active partnerships with state and local government organizations, raising their awareness of the FLC and bringing them into the federal technology transfer process. The role of state and local governments in technology transfer also ensures full use of the nation's R&D investment. And, states often supplement and leverage federal R&D funding for activities such as technology maturation, workforce development, and tax incentives for new technology startups.

The FLC's State and Local Government (S&LG) Committee is responsible for ensuring that state and local government organizations are aware of the benefits that are available to them and their regions through the use of technology transfer mechanisms. In FY 2011, the FLC engaged in a number of activities promoting federal laboratories to state and local entities, including forging and maintaining relationships with technology-based economic development (TBED) organizations across the country, conducting outreach activities, and developing publications and fact sheets.

Relationships With State and Local Government Organizations

Relationships with state and local government organizations significantly increase the visibility of federal laboratories and the FLC's mission by conveying the opportunities and benefits of federal technology transfer to a large volume of targeted stakeholders. Joint initiatives with each partner organization—such as speaking engagements, co-sponsored events, and participation in working groups—give the FLC access to a substantial audience of potential technology transfer partners.

In FY 2011, the FLC conducted various activities with a long-time strategic partner, the State Science and Technology Institute (SSTI), a national nonprofit organization dedicated to improving government-industry programs that encourage economic growth through the application of science and technology. SSTI's membership includes key individuals working in state science and technology programs in 49 states.

Photo credit: ORNL

The S&LG Committee has diligently sought to foster strong relationships with premier economic development organizations and initiatives such as i2e, idea village, Ohio Third Frontier, and TEDCO. SSTI was instrumental in securing the participation of these organizations in the federal technology transfer process and sponsoring their participation in meetings with individual national laboratories that facilitated the incorporation of national laboratory technologies and resources into the models of these successful state initiatives.

"We've grown to depend tremendously on the FLC State & Local Government Committee for helping us tell the story of how important the labs are to the nation's continued leadership in innovation. The online state profiles and success stories provide powerful proof of the widespread impact of federal research spending and lab tech transfer efforts across the country."

– Mark Skinner, Vice President, State Science & Technology Institute (SSTI) and Director, Regional Innovation Acceleration Network (RIAN)

The FLC continued to maintain relationships with several other organizations with which it holds Memoranda of Understanding, such as the Association of University Research Parks (AURP) and the National Association of Seed and Venture Funds (NASVF). AURP represents the leadership of research parks throughout the U.S., and members include a variety of university, government, not-for-profit and private organizations interested in the development and

operation of research-related technology projects and programs. AURP's mission is to foster innovation, commercialization, and economic growth in a global economy through university, industry, and government partnerships. NASVF advocates for the growth of seed and early-stage innovation capital, and connects the people in the world of venture capital and regional economic development. NASVF membership draws from the full spectrum of seed and early-stage investors, technology-based economic development organizations, universities, incubators, and professionals that invest and provide key resources to emerging enterprises.

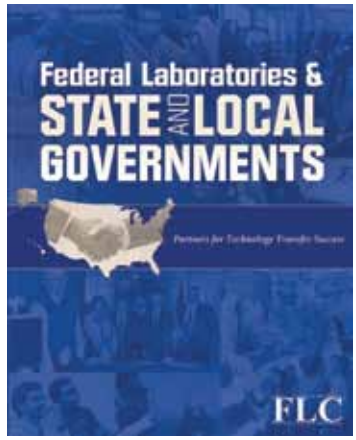
Conference Participation

The FLC sought to raise awareness of and to facilitate technology transfer by attending, participating in, and/or exhibiting at numerous strategic conferences, such as the International Economic Development Council (IEDC) 2011 Federal Economic Development Forum and Annual Conference; the SSTI Annual Conference; and the AURP 2011 International Conference, at which the FLC was represented in the session "Federal Laboratories' Role in Regional Economic Development."

At local and regional levels the FLC sponsored, coordinated, and/or participated in several technology-focused economic development conferences in conjunction with local economic development agencies. These conferences included the Commercializing Innovation Forum in Alexandria, Va.; the Energy Technology Forum in Williamsburg, Va.; and the Maryland Entrepreneurs' Expo in Baltimore, Md.

Resource Materials

In FY 2011, the FLC released its biannual publication, *Federal Laboratories & State and Local Governments: Partners for Technology Transfer Success*, which highlights exemplary collaborations between federal laboratories and state government entities. This publication, which also provides a compendium of federal laboratories broken down by FLC region and state, has become a valuable tool for federal, state, and local government representatives. The FLC also completed and debuted the online State Profiles project, which illustrates federal laboratory investment and return on investment at a state level. Each of the state profiles, which will be updated annually, provides a snapshot of technology transfer activities in that state. The intended goal of these profiles is to engage and involve potential parties that have an interest in federal technology in their geographic region.



Communications and Outreach

At its core, the FLC's mission is to advocate, support, and facilitate federal technology transfer. As such, communications and outreach serve as a key means of accomplishing this mission. The FLC has crafted a comprehensive communications and outreach program to support targeted audiences—both internal and external to the Consortium. The FLC engages and informs industry, academia, state and local government organizations, and the public about technology transfer and the Consortium's services and resources—with the ultimate goal of bringing about technology transfer partnerships. It also leverages an internal communications system to engage and educate the membership; to provide services and resources to the membership; and to conduct the internal business of the FLC. Through the communications efforts described below, the FLC seeks to increase the number of technology transfer successes that emerge from the federal labs each year.

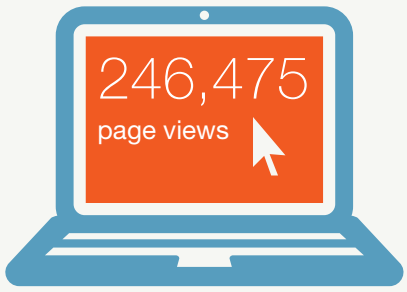
FLC Website

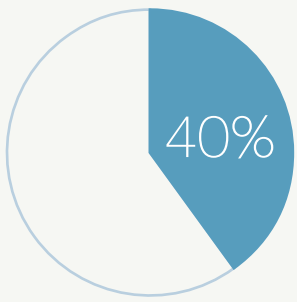
The FLC website is a major component of the Consortium's internal and external communications and outreach strategies. The site, which has wide-ranging search capability, provides extensive information about the FLC and federal technology transfer, including technology transfer legislation and policy, success stories, and the primary FLC points of contact. Some of the key resources found on the website include: the Federal Laboratory Database, which includes information (e.g., points of contact, capabilities, expertise) about each federal laboratory; the Technology Transfer Training Resources Database; State Profiles with federal R&D funding and member laboratories; the Technology Locator Service and request form; the T2 Talk Message Board; the events calendar; and, perhaps most importantly, an inventory of federal technologies available for transfer. The site also contains online publications and educational materials, information about the FLC recognition and awards program, and all details relevant to past and upcoming national meetings, including their proceedings.

"The exciting changes in the digital world, coupled with budgetary constraints, will have a large impact on how we do business in the FLC. We are moving publications to electronic formats—for example, e-books—where we can gain greater exposure for less money and solidify the FLC's place as *the* information hub for the tech transfer community."

– Sara Baragona, Communications Committee Co-Chair

Website statistics from FY 2011 include the following:





visitor return rate

66,400 visits

39,900 unique visitors

Hence, the FLC website serves as a technology transfer hub for member laboratories, agencies, and potential partners. The website attracts a wide variety of users from government, academia, and industry.

Electronic Roundtables

The FLC provides electronic roundtables for FLC representatives from member laboratories and agencies throughout the country to meet virtually. This roundtable system provides a work group environment for complete communications through email for all FLC members—as well as specific FLC member interest groups such as the agency representative, laboratory director, and committee roundtables.

The system enhances the ability of agencies and laboratories to share information on such topics as cooperative R&D, licensing, and partnership opportunities; legislative and policy developments from Washington, D.C.; upcoming meetings and trade shows; regional and national initiatives; and public relations opportunities. The FLC's electronic communications system comprises 48 focus groups, including those for FLC regions, committees, individual departments and agencies, and FLC partnership

initiatives. It is used to disseminate FLC content and announcements, as well as communicate FLC business with the Executive Board and committees.

The roundtable system is also used to conduct email outreach (e.g., announcements about technology transfer events) to targeted external audiences. In FY 2011, the FLC also extended its outreach to potential technology transfer partners by creating an RSS feed for federal technologies that are available for licensing.

Social Media

In FY 2011, the FLC set the stage for its growth campaign in social media. The emergence and popularity of social networking websites as related to the business world have enabled the FLC to communicate in real time and broaden its reach to members and potential partners. This gives the Consortium an opportunity to connect, share, and promote services, products, and events. By the end of FY 2011, the FLC's campaign consisted of over 550 followers on Twitter, including multiple Twitter postings per day, in addition to ongoing activity on Facebook and LinkedIn. Each element of the social media campaign is structured to engage the technology transfer community and industry as a means of facilitating partnerships and technology transfer successes.

Outreach Materials and Publications

Each year the FLC publishes attractive and informative publications, bringing a high level of publicity to programs, laboratories, and award winners in an effort to share the stories of technologies emerging from federal laboratories. The FLC develops and distributes a wide variety of outreach materials, including national and regional newsletters; the FLC brochure; *Technology for Today*; the FLC Planner; the FLC State and Local Government success story publication; and education and training materials.

FLC NewsLink has been a mainstay of the FLC communications toolset for over a decade, and it has grown from a few printed pages to an expanded monthly electronic version in 2011 that encourages communication with member agencies, laboratories, and external partners. The newsletter enables the FLC to keep members and external partners informed about federal technology transfer news, technologies, research, success stories, websites, and events. In FY 2011, ten regular issues were published—with an average monthly distribution of 7,000. The subscriber list includes members of industry, academia, state and local governments, media representatives, professional

associations, and federal laboratories and agencies. Each issue of *FLC NewsLink* highlights one or two specific technology areas. In FY 2011, issues focused on energy, transportation, defense, health, environment, homeland security, communications, nanotechnology, manufacturing, and assistive technology. *FLC NewsLink* is also dedicated to expanding communication and dialogue. To facilitate communication between FLC laboratories and educational institutions at all levels, *FLC NewsLink* publishes articles that focus on the processes and techniques that lead to collaborative R&D efforts by laboratories and academic institutions and resulted in new technologies in the marketplace, FLC education and training programs, laboratories' educational outreach efforts, educational opportunities and internships in technology transfer, and technology management at universities and laboratories.

Technology for Today is a highly effective tool for promoting the national benefits of federal technology transfer. This annual FLC publication highlights 20 to 30 technology transfer success stories that are written in an informative and engaging manner. These stories show how technology recently transferred from the federal labs is in use today—creating economic development and improving the quality of life for American citizens through medical, environmental, agricultural, energy, transportation, public safety, and limitless other technological advances. The publication also includes articles about federal laboratory programs aimed at increasing student interest in science, technology, math, and engineering (STEM).

The FLC Planner is a planning tool that uses eye-catching federal technology transfer images and captions submitted by the laboratories to promote the benefits of federal technology transfer and the technical expertise of FLC member laboratories in an easy-to-use, large-format planner.

The *Technology Transfer Desk Reference* is a vital tool for all technology transfer professionals that is produced by the FLC's Education and Training Committee. The publication was fully revised in FY 2011 and now incorporates the ORTA Handbook.

The Technology Locator brochure introduces potential partners from industry, academia, and the public sector to the FLC's free service that matches technology needs with federal laboratory inventions and capabilities.

The 2011 Awards Program booklet showcased winners of the prestigious FLC awards. It was distributed at the national meeting.

Other informational and promotional materials produced and distributed in FY 2011 include a number of laboratory media packets promoting the value of government technology transfer and the federal laboratory system. These consisted of various one-page information sheets describing the technologies and areas of expertise of specific federal laboratories and research centers, as well as highlighting the FLC's mission, products, and services. The FLC also produced and distributed outreach material concerning the annual national meeting, as well as materials used at the meeting.

Public Affairs and Conferences

To spread the FLC's technology transfer message, the FLC seeks publicity throughout the year and conducts media outreach to general interest media (e.g., newspapers) and targeted trade publications. The FLC produces press releases, invites the media to FLC events such as the national meeting, and arranges for media interviews with FLC leadership. The FLC places advertisements, primarily related to the national meeting, in a handful of publications.

The FLC takes advantage of low- or no-cost opportunities for mutual marketing with other technology-related organizations, e.g., reciprocal website links and co-sponsorships of technology-related events. Some of these organizations include the Association of University Research Parks (AURP), the National Association of Seed and Venture Funds (NASVF), and the Licensing Executives Society (LES). The FLC also serves as gateway to technology transfer and the federal laboratory system, addressing requests and questions from industry, academia, and the public.

The FLC works to keep the membership apprised of legislation and legal decisions pertinent to federal technology transfer. The FLC also works to keep the appropriate congressional and agency staffs informed of its activities and relevant initiatives. Much of this is accomplished through the efforts of the FLC Washington, DC Representative. For example, in FY 2011, the FLC briefed the staff of the U.S. State Department Office for Science and Technology Cooperation on federal technology transfer; the staff of the Congressional Technology Transfer Caucus of the FLC on technology transfer issues; and members of the Ukrainian delegation and the Finnish Embassy staff on federal technology transfer.

The FLC's outreach program recognizes the value of face-to-face interactions and networking. This approach has been extremely effective at increasing the FLC's dialogue with industry, academia, state and local governments, and other targeted groups—with the goal of facilitating technology transfer partnerships that eventually lead to successful commercialization. The FLC implements this outreach by attending and exhibiting at regional and national conferences, trade shows, and related events. The Consortium displays an exhibit booth designed to effectively communicate what the FLC and its members offer to potential industry partners and other interested parties. The booth is staffed by FLC representatives who receive and follow up on numerous leads and inquiries, often through the Technology Locator service. In many cases, FLC leadership delivers presentations, further educating targeted audiences about federal technology transfer benefits and mechanisms.

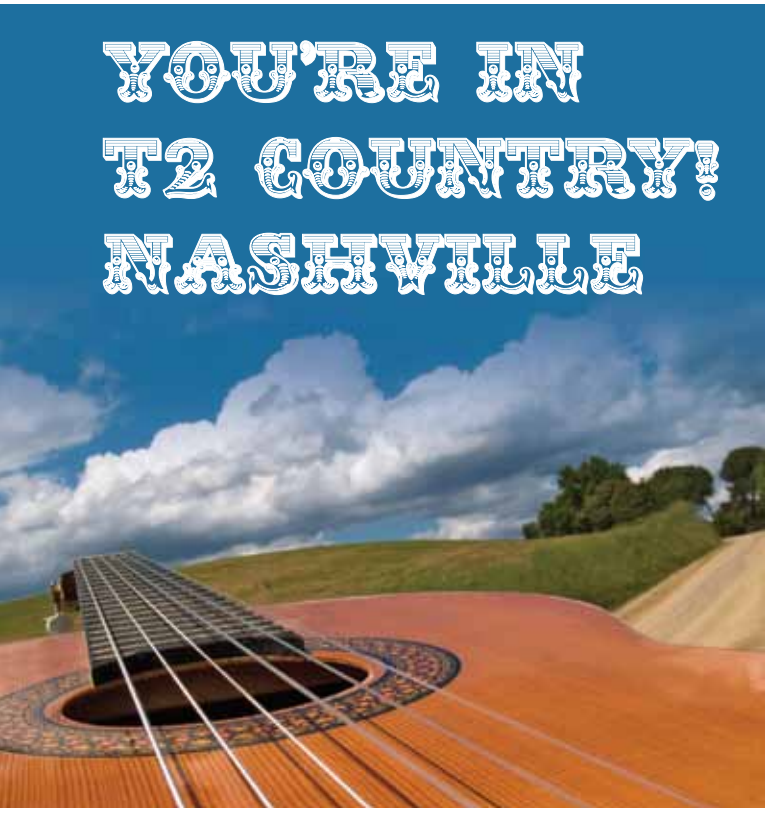
In FY 2011, the FLC exhibited, attended, or presented at the following events, among others: the State Science and Technology Institute (SSTI) annual conference; the AUTM national meeting; the AURP International Conference; International Economic Development Council (IEDC) 2011 Federal Economic Development Forum and Annual Conference; GEOINT 2011; the LES annual meeting; the Small Business Innovation Research (SBIR) Conference; the International Society of Optical Engineering (SPIE) Optics and Photonics Conference; and the University of Maryland Small Business Development Center Conference. Additionally, two members of the FLC leadership taught one session of a course on federal technology transfer sponsored by the USDA Graduate School and Technology Transfer Society. Attendance at these and past conferences has proven to be a vital means of encouraging technology transfer, generating potential partnership leads, and informing targeted industry sectors and organizations how they may commercialize and take advantage of inventions developed in the federal laboratory system.

Outlook for FY 2012

In FY 2012, the FLC Communications Committee plans to expand its strategy for industry outreach and increase its focus on economic development. Additionally, the FLC will seek to enhance its ability to connect technology transfer professionals through virtual means, including live streaming from the national meeting, and building an online social network to communicate and share ideas.

FLC National Meeting

The FLC national meeting serves as the yearly culmination of the FLC's efforts in education and training, membership networking, and award recognition. The exchange of information that occurs at the national meeting through formal training, seminars, topic sessions, panel discussions, special events, exhibits, and formal and informal networking is essential to the success of federal laboratory technology transfer efforts. Each year, there are robust discussions of new ideas, lessons learned, and innovative T2 approaches. The national meeting is a one-stop "shop" where T2 professionals obtain the learning, tools, contacts, support, and creative spark they need to excel at their jobs.



In addition to federal laboratory personnel, the national meeting also seeks the participation of potential technology partners from state and local government organizations, industry, and academia. The FLC recognizes the opportunity to introduce these participants to the benefits of partnering with federal labs. The national meeting stimulates interest in technology transfer through media coverage, as well as through the involvement of local businesses in events such as Industry Day. Furthermore, the national meeting is a venue for conducting Consortium business, including FLC elections, and Executive Board, regional, laboratory director, committee, and agency meetings.

"Having the chance to talk directly to my T2 peers from labs around the country really gave me a sense of the bigger picture and what T2 is all about came into perfect focus."

– 2011 national meeting attendee

The 2011 national meeting, *Welcome to T2 Country*, was held in Nashville, Tenn. Most of the over 450 registered attendees and exhibitors were federal laboratory employees; however, many members of industry and academia also attended. Each year, the FLC Program Committee ensures that the national meeting agenda focuses on providing technology transfer professionals with the tools and information they need to facilitate the transfer of federal technologies and capabilities to the marketplace.

"The FLC's national meeting in Nashville was unprecedented in attendance and participation. The exchange between T2 professionals was informative and instrumental in forming relationships to transfer federal technologies to the marketplace. There's really no substitute for networking in person…T2 is all about developing and leveraging professional relationships."

– Ed Linsenmeyer, FLC Program Committee Chair

Highlighted panels and presentations in 2011 included The Evolving Metrics of Technology Transfer; Improving the Speed of Business of Executing Agreements Between Federal Laboratories and Nonfederal Entities; International Partnerships; Leveraging Open Innovation; and The Human Element, which explored how technology development and technology transfer can make a difference in people's lives.

The meeting agenda featured a full day of formal training courses (Fundamentals, Intermediate, and Advanced), attended by over 160 trainees. The keynote address was given by Phillip Singerman, the Associate Director for Innovation and Industry Services at the National Institute of Standards and Technology.

The national meeting also provided a showcase for the FLC's prestigious technology transfer Awards Program, including an interactive poster session that highlighted the R&D achievements of award-winning FLC laboratories and researchers. Additional events included a Tech Fair for laboratory and industry exhibitors, and Industry Day, which featured keynote speaker Dr. Chris Thoen, Director of Global Business Development, External Innovation & Knowledge Management at Procter & Gamble (P&G). Dr. Thoen discussed open innovation partnership, including examples of how P&G has worked with government entities, such as its 18-year partnership with Los Alamos National Laboratory.

While the business of federal technology transfer takes place throughout the year, it is at the national meeting that strong foundations and relationships are formed. By bringing the federal labs together and opening the doors to potential industry partners, the FLC national meeting spreads the message of technology transfer and creates the environment for it to flourish.

Technology Transfer Awards Program

One of the most effective ways that the FLC encourages technology transfer is through its Awards Program, which honors the standout efforts of federal researchers, technology transfer professionals, and industry partners. These high-profile FLC awards have steadily gained prestige in the technology and business communities, leading to intense competition each year among the nominees. At the same time, these honors provide the laboratories with incentive to encourage their employees to engage in technology transfer activities.

The Awards Program celebrates the men and women who directly contribute to the U.S. economy and magnify the return on investment of federal R&D dollars. The FLC uses the program, in combination with the accompanying success stories, as a vehicle to promote the overall FLC mission. The winners and their stories are publicized in the national and local media, as well as within the FLC community. They are visible proof that technology transfer works and that FLC involvement is a key element in its success.

Recognition from the FLC is a source of great pride for the winning agencies and laboratories, who further publicize the accomplishment both internally and externally. Many industry partners of the winning labs also choose to capitalize on the honor by citing it in their marketing materials.

> "Over the years the FLC Awards Program has evolved from an annual acknowledgment of the successful technology transfer projects taking place at our member laboratories, to a prestigious event in the world of technology transfer. This is reflected not only in the increasing number of nominations submitted each year, but in the intense competition among the federal agencies to pursue transfer efforts that would be considered worthy of such an honor."
>
> *– James Poulos, Awards Committee Chair*

Since the launch of the annual Awards Program in 1984, the FLC has presented more than 885 awards to over 200 federal laboratories. Because the technology transfer efforts of the FLC are diverse in scope and large in number, eight national categories—three of which are new in 2011—have been established to recognize significant accomplishments in technology transfer by individuals, laboratories, agencies, and their partners.

Awards for Excellence in Technology Transfer

U.S. Department of Agriculture

Agricultural Research Service, Midwest Area
Comprehensive Application Technology and Strategy to Reduce Pesticide Use

Agricultural Research Service, South Atlantic Area
Real-time RT-PCR for Pandemic H1N1 Influenza in Veterinary Medicine

Agricultural Research Service, Center for Grain and Animal Health Research
Instrument for Rapid Detection of Insect Infested Grain

Agricultural Research Service, Eastern Regional Research Center
Flash Pasteurization for Improving the Food Safety of Hot Dogs

Department of Defense – U.S. Army

U.S. Army Center for Health Promotion and Preventative Medicine
Walter Reed Army Institute of Research
Lethal Mosquito Breeding Container

U.S. Army Corps of Engineers, Engineer Research and Development Center, Construction Engineering Research Laboratory
PAVER™, Field Inspector, and Image Inspector: Expanded User Base

U.S. Army Corps of Engineers, Engineer Research and Development Center, Environmental Laboratory
Biopolymer Alternatives to Petroleum-based Polymers for Soil Modification

Department of Defense – U.S. Navy

Naval Facilities Engineering Services Center
NoFoam System for Environmentally Safe Firefighting Foam Testing

SPAWAR Systems Pacific
Ultra-High Sensitivity Optical MEMS Displacement Sensor

Department of Defense – U.S. Air Force

Air Force Research Laboratory, Information Directorate
X-Band MicroSatCom Terminal

Department of Energy

Lawrence Livermore National Laboratory
Environmental Sample Processor

Lawrence Livermore National Laboratory
UWB Intracranial Hematoma Detector

Los Alamos National Laboratory
Adaptive Radio Technology for Satellite Communications

Los Alamos National Laboratory
Genie Pro (GENetic Imagery Exploitation)

National Energy Technology Laboratory
Basic Immobilized Amine Sorbent (BIAS) Process for CO2 Capture

Oak Ridge National Laboratory
Laser-Induced Fluoresence Fiber-Optic Measurement of Fuel in Oil

Oak Ridge National Laboratory
National Renewable Energy Laboratory
Flexible Thin-Film Crystalline-Silicon Photovoltaics on RABiTS™

Pacific Northwest National Laboratory
IncubATR™ - the Live Cell Monitor

Pacific Northwest National Laboratory
Low Noise Quantum Cascade Laser Current Controller

Pacific Northwest National Laboratory
Propylene Glycol from Renewable Sources

Sandia National Laboratories
Stingray

Department of Health and Human Services – Centers for Disease Control and Prevention

Centers for Disease Control and Prevention
Therapeutic Antibodies for the Prevention and Treatment of Respiratory Syncytial Virus (RSV) Infection

Department of Health and Human Services – National Institutes of Health

National Cancer Institute
A Life-Saving Diagnostic Test for Cancer Patients

Environmental Protection Agency

Commercialization of EPA Technology on Hydraulic Hybrid Refuse Trucks

National Aeronautics and Space Administration

Glenn Research Center
Inflatable Radome Antenna System

Johnson Space Center
Robonaut2

Langley Research Center
Portable Infrasonic Detection System

Langley Research Center
Safe Wireless Fluid-Level Measuring System

In 2011, more than 130 nominations submitted by federal laboratories were judged by panels comprised of distinguished scientists and engineers from federal laboratories, industry, academia, and state and local governments who reviewed the nominations and selected the winners. Forty-one awards were presented in the following categories:

Excellence in Technology Transfer

Stingray explosive-disablement device

The Excellence in Technology Transfer category recognizes laboratory employees and their partners who have accomplished outstanding work in transferring a technology developed by a federal laboratory to the marketplace. Twenty-eight awards for a wide variety of technologies were presented to 23 laboratories representing 6 federal agencies.

Over the years, the technologies transferred under this category have generated licensing revenue for the federal government, and most are currently on the market and in use today. A prime example of this is the 2011 honoree, the "Stingray" technology developed by Sandia National Laboratories and commercialized by TEAM Technologies of Albuquerque, N.M. The Stingray is an explosive-disablement device widely used by the U.S. military that saves lives in war zones, and it is also being marketed to local law enforcement agencies.

Laboratory Director of the Year

This category honors directors of FLC laboratories who have made substantial contributions to technology transfer, spurring economic development. Accomplishments related to the transfer of technology from the federal laboratory to industry—including support of FLC activities, internal accomplishments, industry involvement, and community service—are the primary criteria for the award. In 2011, two winners were selected:

- Dr. Patrick Hunt, USDA Agricultural Research Service, Coastal Plains Soil and Water Conservation Research Center
- Dr. David Pittman, U.S. Army Engineer Research and Development Center, Geotechnical and Structures Laboratory

FLC Service

This category recognizes federal employees who provided significant support to the technology transfer process, thus furthering the mission of the FLC. Individuals were recognized in three categories:

- The Harold Metcalf Award for sustained significant service to the FLC, presented to Lewis Meixler of Princeton Plasma Physics Laboratory.
- The Representative of the Year honor for the most significant contribution to the FLC program in the past year, presented to Deborah Germak, FAA William J. Hughes Technical Center.
- The Outstanding Service honor for an individual who is not an FLC Representative for a notable contribution to the FLC in terms of sustained support and/or service, presented to David McFeeters-Krone of Intellectual Assets, Corp.

Interagency Partnership

This category jointly recognizes agency and/or laboratory employees from at least two different agencies who have collaboratively accomplished outstanding work in transferring a technology. Three partnerships were recognized in 2011:

- Naval Air Warfare Center Training Systems Division and the Federal Law Enforcement Training Center for the Advanced Use of Force Training System (AUFTS), which far surpasses conventional training systems by offering computer-generated imagery, simulated weapon tracking, speech recognition, and scenario-generation capabilities. Specifically designed for use by law enforcement agencies regardless of size or location, the AUFTS has been licensed by state and regional police departments and a company that develops training systems for the DOD.
- Princeton Plasma Physics Laboratory and the U.S. Army Armament Research, Development and Engineering Center, for an antiterrorism technology called the Miniature Integrated Nuclear Detection System (MINDS) that is designed to detect the radiation emitted from a nuclear threat such as a "dirty bomb." MINDS has been deployed by a major state transit authority, McGuire AFB, and at container handling locations in the U.S. and abroad.

"I am pleased to join with the Federal Laboratory Consortium for Technology Transfer in recognizing the USDA Agricultural Research Service, Eastern Regional Research Center, and the National Energy Technology Laboratory for their work. Both ERRC and NETL are richly deserving of this honor for their contributions to advancing the mission of the FLC and facilitating the rapid movement of federal laboratory research results and technologies into the mainstream U.S. economy."

– Governor Tom Corbett, Pennsylvania

- Sandia National Laboratories and the Environmental Protection Agency, for the CANARY software system for online detection of drinking water contamination that allows for time-critical decision making during routine and emergency water quality situations. CANARY is available under an open-source license to drinking water utilities of all sizes worldwide, and is currently in use by many U.S. major metropolitan water utilities. Multiple U.S. and foreign software vendors are seeking to integrate CANARY into their existing water quality assessment products.

Outstanding Technology Transfer Professional

This category recognizes the efforts of a technology transfer professional (or team) who has demonstrated outstanding work in transferring a technology. The 2011 recipient was the Innovative Partnerships Program Office Team at Goddard Space Flight Center for its novel approach to the licensing of government-owned patents through a live auction process. This method of commercializing selected NASA patented technologies has led to partnering opportunities that expand the use of NASA technologies in the public sector and created a new paradigm for licensing government intellectual property.

State and Local Economic Development—New for 2011

This category recognizes successful initiatives that involve partnerships between state or local economic development groups and federal laboratories for economic benefit. The two 2011 recipients were:

- Sandia National Laboratories and Los Alamos National Laboratory, for the New Mexico Small Business Assistance (NMSBA) program, which is a catalyst for the transfer of cutting-edge technology from these two federal laboratories.

- Naval Surface Warfare Center, Indian Head Division (NSWC-IH), for its decade-long collaboration with the Maryland Technology Development Corporation (TEDCO). The partnership has resulted in highly successful technology showcases and other activities that have generated technology transfer successes, such as cooperative research and licensing agreements and approximately $1 million in funding for the NSWC-IH lab. TEDCO has also leveraged funds to assist small businesses with the transfer of several technologies from NSWC-IH.

Rookie of the Year—New for 2011

This category recognizes the efforts of an FLC laboratory technology transfer professional with three years or less of experience, who has demonstrated outstanding work in the field of technology transfer in a manner significantly over and above what was called for in the normal course of his or her work during the past year. Joshua Forbes of the Air Force Research Laboratory was the 2011 recipient. Among many other technology transfer initiatives he conducted in 2010, Mr. Forbes was also the acting ORTA representative for seven Air Force organizations that did not have formal technology transfer programs. During the course of the year, he drafted and executed technology transfer agreements through the Air Force Research Laboratory headquarters on behalf of the Air Force Nuclear Weapons Center, Defense Cyber Crime Center, 81st Medical Group, 60th Medical Group, Air Armament Center, and the 91st Missile Wing, resulting in 14 CRADAs, three Material Transfer Agreements, a Joint Ownership Agreement, and five Non-Disclosure Agreements—for a total of 22 agreements drafted, negotiated, and coordinated in 2010.

STEM—New for 2011

This category recognizes the efforts of an FLC laboratory employee (or team) who has demonstrated outstanding work in support of STEM education during the past year. The recipient of this honor was the 2010 STEM Postdoc Conference Committee, which is responsible for the Washington, D.C.-area conference and career fair that seeks to match postdoctoral fellows with companies seeking STEM talent.

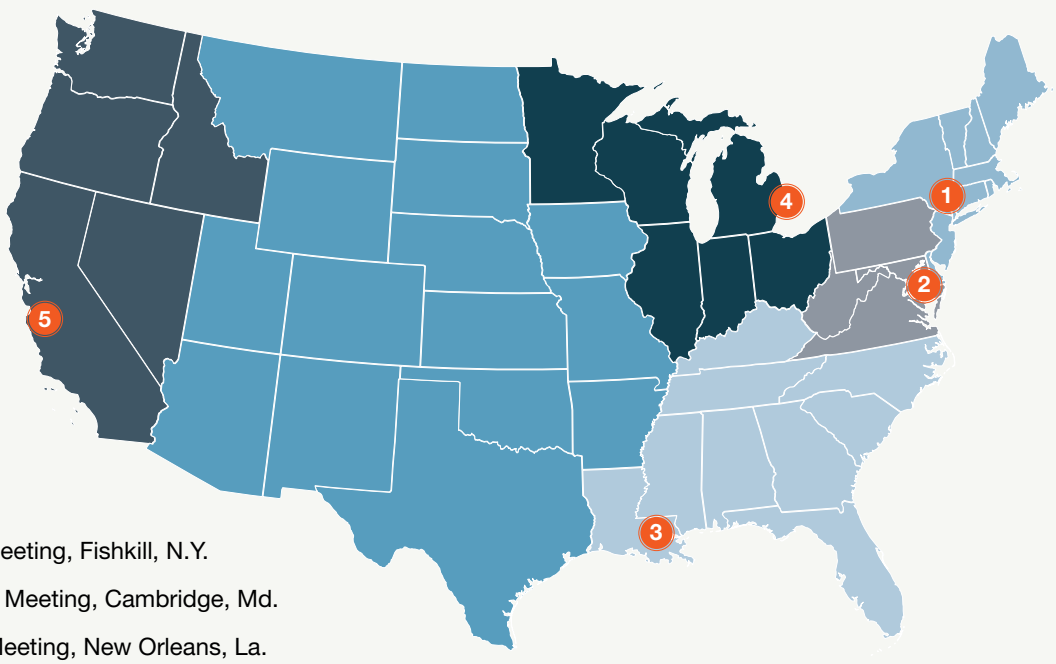
Outlook for FY 2012

Looking ahead to 2012, the FLC Awards Committee will remain committed to making the program inclusive and representative of the diverse agencies that make up the Consortium's membership. The 2012 honorees will be recognized at a ceremony during the national meeting in Pittsburgh, Pa.

Regional Activities

Through the activities of its six regions, the FLC is able to provide members with an added layer of education, training, and networking opportunities on a regional level. In this way, the work of the FLC national organization is both supplemented and magnified, significantly contributing to the success of federal technology transfer. Grouping the federal laboratories into geographic regions allows for a "local" focus, and often results in key collaborations and the immediate sharing of lessons learned and best practices between laboratories due to their affiliation within the region. For example, many laboratories in the FLC Midwest Region collaborate on regional automotive industry initiatives.

At annual regional meetings, current and emerging technology transfer topics are explored through panel discussions, interactive workshops, educational sessions and other activities. Since not every member of the FLC can attend the national meeting, these regional events help to keep technology transfer professionals informed and engaged. A highlight of each meeting is the regional recognition presentation, which fosters technology transfer by recognizing the successful efforts of federal laboratory scientists, researchers, and technology transfer professionals.



1. Northeast Regional Meeting, Fishkill, N.Y.
2. Mid-Atlantic Regional Meeting, Cambridge, Md.
3. Southeast Regional Meeting, New Orleans, La.
4. Midwest Regional Meeting, Dearborn, Mich.
5. Far West/Mid-Continent Regional Meeting, Monterey, Calif.

The FLC regions also promote technology transfer through active outreach to technology-based economic development groups, industry, businesses, and academia within the region. Regional representatives attend and exhibit at conferences, and many of the regions host events such as tours of federal laboratories and networking meetings with local industry groups. Each region maintains a website, and several produce quarterly electronic newsletters. In addition, many of the regions conduct STEM outreach programs that bring local elementary, junior high, and high school students into the labs.

Northeast Region

The March 2011 Northeast regional meeting in Fishkill, N.Y., featured leadership training and sessions on a wide range of topics of importance to the local technology transfer community, including software licensing, interagency collaborations, and tools for Offices of Research and Technology Applications (ORTAs). There were also discussions about International Traffic in Arms Regulations (ITAR) export control issues.

At the meeting, three laboratories were recognized for Excellence in Technology Transfer, including the U.S. Army Benét Laboratories for "Transferring Weapons Modeling Technology From the Battlefield to the Medical Field." The lab worked with a medical industry partner to take a weapon system modeling technology called Stereolithography, traditionally used to translate computer-drawn models into highly accurate three-dimensional future weapon models, and apply it to the creation of medical-grade plastic models that are used by surgeons and physicians in the planning, execution, and risk mitigation of medical procedures.

The Northeast Region conducted various types of outreach, including participation in and sponsorship of the N.J. Technology Council Commercialization Conference. The region is also involved with the boards of several technology-based organizations such as InnovationNJ, the Regional Homeland Security Technology Committee, and others. The region provides insight into working with local federal laboratories, including requests for information specific to homeland defense and emergency response.

The Northeast Region's STEM initiative sponsored four teachers over the summer of 2011 to work with students and to develop lesson plans that may be shared with other schools. Each teacher worked with a mentor at a regional federal laboratory on

a variety of middle- and high school-level projects in STEM areas, including robotics, underwater exploration, graphical information systems, and cubesats—miniature, 10-cm cubic satellites used for conducting research in space.

Also as part of the STEM initiative, middle- and high-school teachers attended three-day sessions at the U.S. Army Natick Soldier Research, Development and Engineering Center in Natick, Mass., to learn about nanotechnology, food packaging, and other subjects that can be incorporated into their science lesson plans.

Mid-Atlantic Region

At the October 2011 meeting in Cambridge, Md., Mid-Atlantic Region participants attended workshops relevant to the meeting's theme of "Enabling Innovation," including "Small Business Initiatives Across the Federal Labs" and "From Federal Lab to Startup." There was also a workshop that examined three technology transfer success stories from the federal laboratories. Regional recognition honors were presented in the following categories: Excellence in Technology Transfer, State and Local Economic Development, STEM, Educational Institution and Federal Laboratory Partnership, Rookie of the Year, Outstanding Technology Transfer Professional, and Laboratory Director of the Year. One recognition for excellence in technology transfer was presented to the National Institute of Neurological Disorders for research on the use of therapeutic antibodies as a novel treatment for multiple sclerosis in patients who fail to respond to standard treatment methods.

The Mid-Atlantic Region co-sponsored and conducted outreach at a wide range of technology-related events, including the Southeastern Virginia Energy Technology Partnership Forum, NASA Goddard Space Flight Center Industry Day, one-day forums on "Commercializing Innovation: Attracting Investors and Entrepreneurs" and "Bringing Space Technology Down to Earth: The Application of NASA Space R&D Technology to Commercial and Public Interest Purposes"; and a technology transfer speaker series with topics such as "10 Shortcuts in Negotiating a License With NIH" and "T2 and the Commercialization Landscape of the Federal Laboratories." The region also hosted seven webinars that were presented by federal technology transfer professionals from the Mid-Atlantic Region, including a four-part series on "Demystifying Working With Federal Labs." These webinars served as vehicles for outreach to economic development organizations, as well as for education and training of federal laboratory employees. Topics included "Technology Transfer Mechanisms Used at the Department of Homeland Security" and "How to Work with

NASA." Attendance at each webinar grew throughout the series, ranging upwards to 600 participants.

Southeast Region

The theme of the February 2011 regional meeting in New Orleans was "Securing Our Environmental Future." The meeting featured presentations from a variety of federal laboratories, universities, and organizations that were significantly involved in the response to the Deepwater Horizon oil spill in the Gulf of Mexico in 2010. Meeting attendees also participated in a tour of Stennis Space Center complex laboratories and agencies, including a test site used collaboratively by multiple agencies.

At the regional meeting, four honors for Excellence in Technology Transfer were presented, including the Project of the Year, which recognized the Agricultural Research Service (ARS) Mid-South Area for its work developing a strain of honeybees capable of fending off Varroa mites that infest and then weaken or kill entire bee colonies. To transfer the technology to the beekeeping industry, ARS used a multifaceted approach, which dealt with complex issues such as the classification of bees as an "animal" and the decision to keep the technology within the public domain. The primary means of technology transfer involved the negotiation of a Cooperative Research and Development Agreement (CRADA) in which the industry partner agreed that the technology would also be made available to other breeders of queen bees.

Attendees at the regional conference also voted to focus a portion of regional assets on developing a comprehensive inventory of the STEM- and education-related activities already ongoing in the agencies and the region's laboratories. That activity was initiated in April and concluded in September.

As part of its outreach efforts, the Southeast Region designed, produced and distributed a planner/booklet that informed industry how to take advantage of federal laboratory technology and the transfer process. In addition to serving as an outreach tool, the planner/booklet was also directed toward laboratory scientists and engineers, and conveyed the value of technology transfer's contributions to strengthening national security, fueling economic growth, and improving quality of life. It included several illustrative success stories from the region's federal laboratories, as well as information related to the technology transfer process, including contact personnel at the laboratories, the patent process, licensing, and CRADAs. Planners were sent to each regional federal laboratory for internal and external distribution.

Midwest Region

The Midwest regional meeting, which had as its theme "Building Bridges Between Auto Suppliers and the Federal Laboratories," was held in Dearborn, Mich., in August 2011. The meeting featured Midwest Region partner organizations Automation Alley, a Michigan technology business association focusing on automotive industry innovation, and the Original Equipment Suppliers Association (OESA), an automotive supplier organization also based in Michigan. The meeting included a tour of the U.S. Army Tank Automotive Research, Development and Engineering Center (TARDEC), as well as a networking event at the Automotive Hall of Fame. One of the meeting highlights was a poster presentation by seven HBCU STEM-field graduates that included market studies for 13 federal technologies available for technology transfer.

At the meeting, recognition was given for Excellence in Technology Transfer and for Regional Laboratory Representative of the Year. Relevant to the automobile industry and beyond, the ARS Bio Oils Research Unit was recognized for the development of plant-based lubricants—termed oleic estolides—that hold the potential for replacing petroleum-based motor oils. The lab has licensed the technology to a firm that already has agreements in place to provide the estolide lubricant to two large oil companies.

Outreach by the Midwest Region included hosting an Automotive Suppliers Technology Forum that featured presentations on research at NASA's Glenn Research Center relevant to the automotive industry. The current technology needs of the automotive suppliers were also presented. The region partnered with OESA for this event, which included a tour of several NASA Glenn laboratories and facilities. A second event with OESA featured presentations on automotive-related research being conducted by the Air Force Research Laboratory (AFRL) at Wright-Patterson Air Force Base. There were also tours of these laboratory facilities and the opportunity for industry to network with AFRL researchers.

Far West and Mid-Continent Regions

The August 2011 Far West and Mid-Continent joint regional meeting in Monterey, Calif., featured more than ten training topics, including intellectual property issues, gene patenting, the America Invents Act, leveraging software disclosures into licensable technologies, and translating patent claims into successful marketing pieces. There were also numerous programs of interest to ORTAs, including "Investors Forum," "Entrepreneur Readiness," and "From Lab to Small Business to Fortune 500."

In FY 2011, the Far West Regional Recognition Program focused on "Outstanding Commercialization Success," which honored regional laboratories for moving their technologies from the lab to the commercial marketplace. The laboratories' commercial partners ranged from small businesses such as Wavelength Electronics, Inc. of Montana to large multinational businesses such as Archer Daniels Midland Company, the latter effort resulting in a full-scale manufacturing facility to produce plant-derived propylene glycol, thereby reducing U.S. dependence on petroleum as a feedstock for glycol production. Additional recognition categories included "Outstanding Partnership," which brought federal labs together with state and university entities for water management in California, and "Outstanding Technology Development" for promising new technologies.

Among the recognition categories for the Mid-Continent were Excellence in Technology Transfer, Notable Technology Development, and Regional Partnership. The Agricultural Research Service laboratory in Lubbock, Texas, received one of the Excellence in Technology Transfer honors for the development and commercialization of a process that converts cotton gin waste into molded packaging and insulation material. The lab's CRADA partner for this research is currently producing and selling the material, including to two Fortune 500 companies, and continues to work with the lab to develop new products from the cotton gin waste material.

Far West Region outreach efforts included hosting sessions on "Leveraging Federal Technologies and Resources" at national and regional conferences. These included national SBIR/STTR conferences (Madison, Wisc. and New Orleans, La.), the National NIH SBIR/STTR conference (Louisville, Ky.), the Mid-Continent SBIR conference (St. Louis, Mo.), the American Chemical Society National Conference (Anaheim, Calif.), and the EPSCoR and University Innovation and Entrepreneurship Conference, (Louisville, Ky.). The Far West also exhibited at the Navy Opportunity Forum (Arlington, Va.), and the National Beyond Phase II Conference and Expo (Atlanta, Ga.). Additionally, the Far West conducted outreach efforts for internal government events such as the DOD SBIR/STTR training conference to bring the technology transfer and SBIR communities closer together in leveraging their programs for the small business sector.

Mid-Continent regional representatives exhibited, attended, and/or participated in a variety of events, including Small Business Innovation Research (SBIR) regional meetings, the National SBIR Conference and Technology Commercialization Showcase, the Beyond Phase II Conference, and the Navy Opportunity Forum.


FEDERAL LABORATORY CONSORTIUM FOR TECHNOLOGY TRANSFER
FINANCIAL
STATEMENT

UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
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September 10, 2012

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1001 Connecticut Ave., NW
Suite 735
Washington, D.C. 20036

Dear Ms. Bahar:

We have reviewed the Schedules of Revenues and Disbursements of the Federal Laboratory Consortium for Technology Transfer for Fiscal 2011. This schedule is the responsibility of the Consortium's management. Our responsibility is to express an opinion on the schedule based on our review.

We examined, on a test basis, evidence supporting the amounts and disclosures in the schedule of revenues and expenses, in addition to evaluating the overall presentation of the schedule of revenues and expenses. We believe that our review provides a reasonable basis for our opinion.

In our opinion the Federal Laboratory Consortium for Technology Transfer Schedules of Revenues and Disbursements for Fiscal Years 2005 through 2009 present fairly, in all material respects, funds received and funds disbursed in accordance with accounting principles generally accepted in the United States of America.

Sincerely,

Paul R. Zielinski, Director
Technology Partnerships Office
National Institute of Standards & Technology

NIST

Schedule of Revenues and Disbursements

	2010	2011
Revenues	$2,518,438	$2,675,068
Disbursements		
Contract Support	$1,422,537	$1,503,300
NIST Administrative Charges	$181,625	$150,198
Committee/Operations	$914,276	$1,021,570
Total Disbursements	$2,518,438	$2,675,068

Agency Contributions to the FLC for Fiscal Year 2011

Agency	Amount Paid
Department of Agriculture	$118,656
Department of Commerce	$70,288
Department of Defense	$1,248,346
Department of Energy	$499,000
Department of Health and Human Services	$96,512
Department of Homeland Security	$49,968
Department of Interior	$49,640
Department of Justice	$0
Department of Labor	$0
Department of Transportation	$20,144
Department of Veterans Affairs	$46,440
Environmental Protection Agency	$36,680
National Aeronautics and Space Administration	$275,344
National Institutes of Health	$492,240
National Science Foundation	$0
Total	$3,003,258

OsgBullet, developed by researchers at the Department of Energy's Ames Laboratory, Idaho National Laboratory, and the National Energy Technology Laboratory, along with the U.S. Army Armament Research, Development & Engineering Center and Skew Matrix, is a software package that creates 3-D, real-time computer simulations that can help engineers design complex systems ranging from next-generation power plants to highly efficient cars and tomorrow's video games.

FLC Organization

The membership of the Consortium is comprised of the federal laboratories, each of which is represented by **Agency Representatives** (ARs) and **Laboratory Representatives** (LRs).

ARs are senior representatives who are appointed by each parent federal agency that typically has more than one member laboratory within the FLC. ARs represent the high-level interests of their parent federal agencies, and serve as institutional links between the Consortium and their respective agencies. They coordinate with the federal laboratories that are within their agency's jurisdiction, assist and advise the Consortium leadership with maintaining relevance to changing agency missions/priorities, and support the accomplishment of the FLC's mandates.

LRs are federal laboratory staff members who are appointed by each federal laboratory that is a member of the Consortium. LRs serve as the primary link between the FLC and their laboratory. They represent their laboratory regarding technology transfer and related activities, and assist the FLC with servicing requests for technical assistance. ARs and LRs cast votes in FLC national and regional elections, in addition to voting on changes to Consortium bylaws, policies, and procedures.

To best serve its large and geographically diverse membership, and most effectively administer its affairs and services, the FLC is organized into 6 **regional subdivisions**: Far West, Midwest, Mid-Atlantic, Mid-Continent, Northeast, and Southeast. Each Consortium member laboratory is a member of the region in which it is located. Regional Coordinators (RCs) and Deputy Regional Coordinators (DRCs) are elected by the voting members of each region to carry out the affairs of the region.

The **Executive Board** is the FLC's governing body. It is comprised of four nationally elected positions—FLC Chair, Vice-Chair, Finance Officer, and Recording Secretary—in addition to the Host Agency Representative, six Regional Coordinators, six Members-at-Large, and the chairs of standing committees. The FLC Executive Board determines policy and direction, and establishes the annual budget.

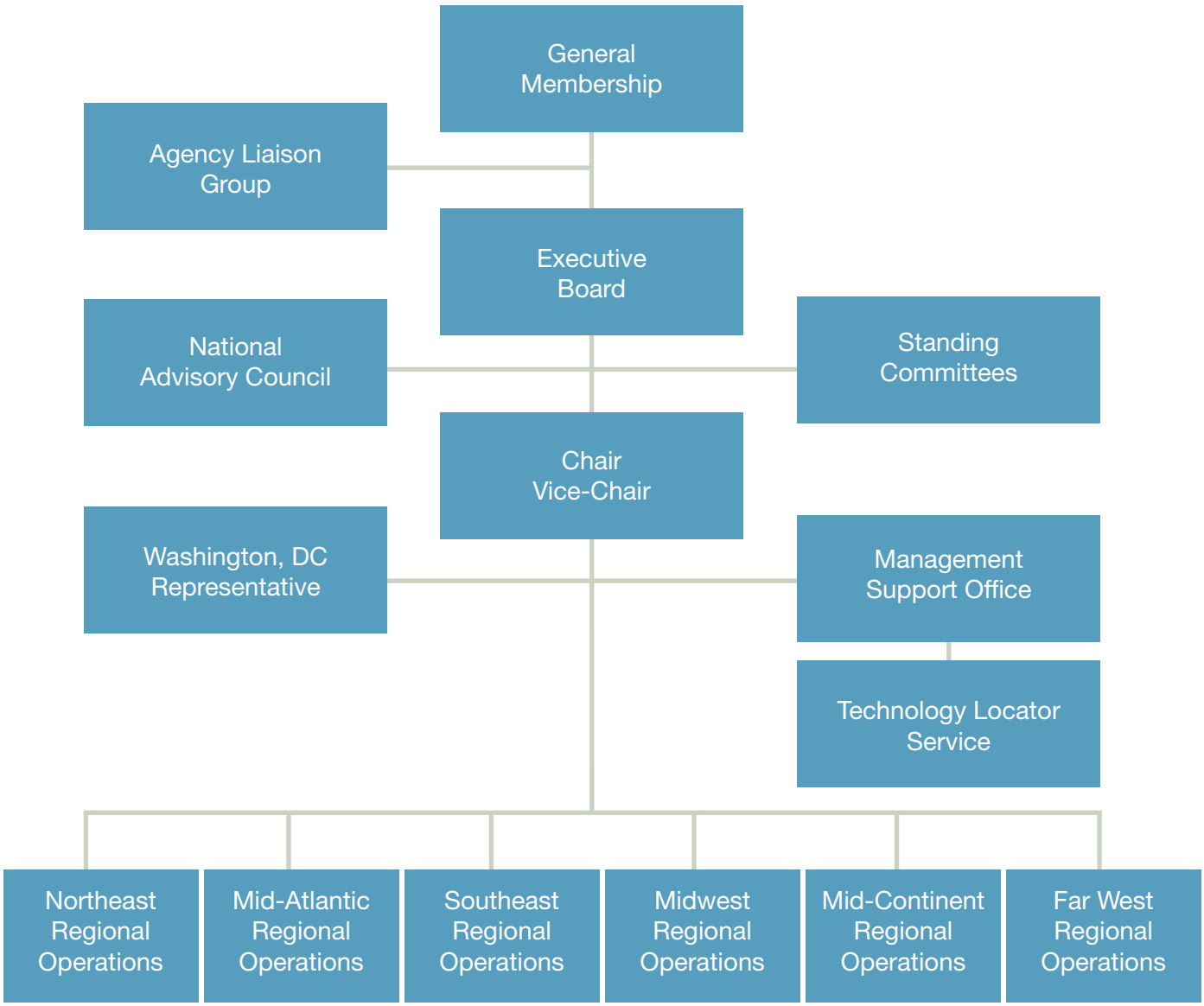
The Executive Board is advised by the **National Advisory Council** (NAC), which includes advisors from the FLC's user communities, i.e., industry, academia, state and local governments, and federal laboratories. The NAC Chair serves as an ad hoc member of the Executive Board, as does the FLC's **Washington, DC Representative**. The DC Representative, who is selected from technology transfer community nominations, provides the Executive Board with information regarding T2 legislation, policy, and procedures.

Much of the work of the Consortium is planned and carried out by **committees**, including:

- Awards Committee
- Communications Committee
- Education and Training Committee
- Legal Issues Committee
- National Advisory Council
- Planning and Policy Committee
- Program Committee
- State and Local Government Committee.

Committee chairs are selected and appointed by the Executive Board, and represent their committees' activities to the Executive Board.

Federal Laboratory Consortium for Technology Transfer
Organizational Structure



FLC Executive Board

(effective October 1, 2012)

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Federal Laboratory Consortium
for Technology Transfer

Prepared by the FLC Management Support Office in conjunction with FLC Chair Mojdeh Bahar