Facilitating Federal Lab-to-Market Initiatives for Economic Growth

FLC
Federal Laboratory Consortium
for Technology Transfer

2014 Annual Report
TO THE PRESIDENT AND CONGRESS

Our Nation's scholars and innovators have expanded our understanding of the world, made invaluable contributions to their fields, and helped improve countless lives. Our nation has been enriched by their achievements, and by all the scientists and technologists across America dedicated to discovery, inquiry, and invention.

– President Barack Obama addressing a new class of recipients at the National Medal of Science and National Medal of Technology and Innovation

Photo credit: Donald K. Perovich, ERDC CRREL

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Letter From the FLC Chair

2014—A Focus on Technology Transfer

The start of 2014 ushered in a resurgence for federal technology transfer initiatives through the President's Management Agenda and the Lab to Market Cross-Agency Priority Goal focus on technology transfer. These efforts across many agencies are enabled by broad support in the Congress and the President's budget proposal. For example, the President's fiscal year (FY) 2014 science and technology budget called for significant, targeted investments in U.S. research and development (R&D) as a strategic investment to spark innovation and grow our economy — major elements in the Administration's strategy and commitment for opening new doors to jobs and opportunities for all Americans.

As a recognized leader in enabling and supporting the technology transfer (T2) missions of its member laboratories, the FLC takes great pride in adding value to government-wide initiatives and delivering on the promise made through our nation's R&D goals and investments. With this in mind, the theme of this year's FLC Annual Report is "Facilitating Federal Lab-to-Market Initiatives for Economic Growth."

This year held many new and exciting events and initiatives that were directed to further the FLC's commitment and support of its members and partners in the T2 community. Through the launch of our newest technology transfer tool, FLCBusiness, which was designed to boost business between labs and industry by leveraging federal resources, the FLC has made great strides in streamlining the commercialization process. We also held our first-ever virtual conference, the FLC Tech-to-Market Virtual Forum, which provided a convenient online space for labs to exhibit their available technologies and form potential partnerships with industry. The FLC awards program unveiled its new branding and logo design, which is now available for all awards recipients to use when sharing their well-deserved T2 accomplishments. And with strategic improvements to our education and training and communications programs, the FLC is poised to offer several new T2 course offerings through various media to meet the demands of current and incoming members.

Letter From the FLC Chair

The impact that federal technology transfer has on our economy and society has become more relevant than ever for federal laboratories and, in turn, the FLC. After the release of the Government Accountability Office's (GAO) report, "Technology Transfer: Federal Laboratory Consortium Should Increase Communication With Potential Customers to Improve Initiatives," the FLC responded with plans to improve its various tools and services, and make it easier for end users such as businesses and entrepreneurs to connect with labs.

As you will read throughout the pages of this report, I hope you will appreciate why we like to say that technology transfer truly is a "contact" sport. Technology transfer requires networking and the dedicated efforts of many parties to succeed. Thanks to the advocacy and actions of various committees, regional coordinators and contributing members, the FLC delivers significant results while carrying out its mandated mission of promoting, educating, and facilitating T2 for our national laboratories. From grass-roots efforts to networking opportunities offered at our annual national meeting and Industry Day, the activities and program enhancements made to all facets of the organization this year will pay great dividends to the T2 community. More than ever, the FLC is focused on remaining a reliable resource for its members in support of facilitating our nation's economic health. These efforts have been recognized globally as other countries try to imitate our success.

On behalf of the members of the FLC, I am pleased to present, in accordance with 15 U.S.C. § 3710(e)(6), the FLC 2013 Annual Report to the President and Congress.

Respectfully,

Paul Zielinski
FLC Chair

2014—A Focus on Technology Transfer

Fiscal year 2014 (FY14) brought about a new sense of urgency for all federal agencies, laboratories and organizations to tighten their research and development (R&D) initiatives in order to fuel innovation and grow the American economy. The Lab-to-Market Cross-Agency Priority Goal helped to set the tone for FY14 and allowed for technology transfer (T2) initiatives to take significant precedence among federal laboratories.

The FLC used FY14 as a time to strengthen the resources it provides its member agencies, laboratories and their facilities so they are given the best opportunity to succeed in their T2 missions. Through promoting, educating and facilitating the T2 process, the FLC provides its members with the support system they need for commercialization success. The FLC was eager to step up to the plate and deliver the necessary tools, services, training, and networking events that would provide leverage for federal technologies to gain industry exposure.

With the help of FLC Regional Coordinators, various committee members and the diverse T2 community, the FLC responded and supported the Lab-to-Market Cross-Agency Priority Goals that aim to boost our economy through commercializing federal technologies. To meet its goals this year, the FLC took strategic actions that achieved the following:

- Launched FLCBusiness.com—the first comprehensive database that features all of the resources that the federal laboratories have to offer and that can be leveraged by both labs and industry to spur tech transfer.
- Offered a two-day virtual conference called the FLC Tech-to-Market Virtual Forum, where laboratories could virtually display their available technologies to industry as well as partake in live and on-demand T2 training sessions.
- Hosted the 2014 FLC national meeting in the Washington, D.C. area, complete with virtual and live-streaming capabilities.
- Continued to fine-tune plans and project development of a new FLC website.
- Introduced a new logo and branding for the FLC.
- Initiated plans for the integration of the Available Technologies Search Tool into FLCBusiness.com, as well as planned further enhancements to FLCBusiness.
- Increased production of e-courses and webinars to offer a wide variety of live and on-demand options for all levels of T2 learners.

FLC Organization and Tools & Services Stats

Featured below is a compilation of all of the FLC's activity performance figures. These metrics offer insight into the value of the growing resources, tools and services that the FLC is committed to providing to its members and industry.

federallabs.org

184,760
page views

139,463
unique visitors

AVAILABLE TECHNOLOGIES

Total Queries
15,726

Distinct Queries
7,807

Sessions
3,590

Page Views
5,693

Most Popular Search Term
Water

FLCBusiness

34,169
page views

16,919
unique visitors

865
unique searches

Search available facilities

Most Popular Search Terms
Physics | Oak Ridge | ARDEC | Induction | Natick

Social Media

- 2,000 Twitter followers
- 388 LinkedIn followers
- 784 Facebook likes
- 52 YouTube subscribers

National Awards

89
Nominations

6
Agencies

27
Winners

National Meeting Attendees

- 391 Attendees
- 177 Trainees
- 13 Exhibitors
- 148 First Timers

FLC Tools and Services – A New T2 Toolkit

To support the commercialization goals that have been set in motion through cross-agency priority initiatives, connections between industry representatives and federal labs need to be identified and strengthened. To meet the needs of industry and the labs, the FLC established a new ad hoc committee named the Laboratory and Business Systems (LaBS) Committee. The Committee was created to guide the FLC's continuing efforts to expand and enhance the tools and services it provides for its members. The official addition of LaBS as a standing executive committee was the result of the voting and approval that occurred at the 2015 FLC national meeting. LaBS will be dedicated to the evaluation, deployment and operation of FLC tools to assist labs with accomplishing their T2 missions, as well as to providing a more accessible and approachable space for industry to interact with federal labs.

FLCBusiness

As the FLC's latest tool designed to help industry leverage federal resources, FLCBusiness plays a central role in the Lab-to-Market Cross-Agency Priority Goals as a single source for information on laboratory facilities information. After being released as a beta product to laboratory members in December 2013, FLCBusiness was officially launched to the entire FLC community at the FLC national meeting in April 2014, and is now publicly available. FLCBusiness is the first comprehensive database of all that the federal laboratories offer.

Since its launch, FLCBusiness has undergone significant public testing, and in September 2014 the FLC retained a third-party crowd-sourcing testing platform to test the user interface and search capabilities. The site also features a built-in feedback form on each page to collect as much customer input as possible. In continuing efforts to introduce FLCBusiness' capabilities and gain feedback, a tutorial on using the site's easy-to-use search functionality was given during the FLC's Tech-to-Market Virtual Forum in November 2014.

Whether looking for a laboratory facility to conduct research, or searching for agency programs that can help a startup get its tech off the ground, FLCBusiness' comprehensive search database is extremely user-friendly. FLCBusiness houses extensive profiles of over 300 federal laboratories, including the laboratory description, mission, associated facilities listing, downloadable publications, website, and contact information.

FLCBusiness 2.0

Since its launch, FLCBusiness has made great strides in its data collection. Starting in FY15, FLCBusiness will be reassessed for future enhancements that can be made to its database and functionality. Such enhancements include, but are not limited to:

- Integrating the FLC's already successful Available Technologies Search Tool, which enables users to search for federal technologies that are ready for licensing
- Further data collection efforts relative to federal laboratories and their facilities, and sharing this data through data.gov
- Designing a streamlined T2 agreements matrix to easily guide anyone interested in working with a lab to commercialize technologies.

The impact that FLCBusiness already has, along with the addition of these proposed features, will streamline the T2 process for industry and labs tenfold. The further development of this comprehensive search tool will pay dividends in new technology markets and our country's economic growth.

Available Technologies Search Tool

Also included in the FLC's laboratory and industry tool kit is the Available Technologies Search Tool (ATT)—a one-stop shop to locate licensing opportunities for a particular type of technology anywhere in our nationwide system of federal labs and research centers. By crawling the websites of 10 agencies and nearly 350 laboratories, ATT leverages Google's search algorithm and scans tens of thousands of available federal laboratory technologies.

ATT provides a search engine that aggregates listings throughout the federal laboratory system, making it extremely easy for anyone to search government and laboratory websites and records. All search results lists will link users directly to a laboratory or agency listing.

SELF-ASSEMBLED NANOTEXTURES CREATE ANTIREFLECTIVE SURFACE ON SILICON SOLAR CELLS

Chuck Black of Brookhaven National Laboratory's Center for Functional Nanomaterials, displays a nanotextured square of silicon on top of an ordinary silicon wafer. The nanotextured surface is completely antireflective and could boost the production of solar energy from silicon solar cells.

Photo credit: Brookhaven National Laboratory

Technology Locator

For more than 15 years, the FLC Technology Locator Service has offered personalized services to laboratories and industry representatives looking to collaborate and advance their technologies. This unique service offers immediate personalized search assistance and referrals that connect industry and technology seekers with laboratory expertise.

For anyone seeking to improve their product, solve a manufacturing issue, or start a business, the Technology Locator serves as a matchmaker between you and the FLC community's large network of laboratory resources. Through an extensive knowledge base of the federal laboratory system, the Technology Locator staff connects technology seekers with a lab that can provide the expertise and capabilities needed to get R&D projects off the ground.

Requests made through the Technology Locator have turned into successful technology transfers. From product manufacturing method improvements for large corporations, to offering viable resources for invaluable insights from lab professionals, numerous connections leading to commercialization have taken place as a result of this service.

Technologies Ready for Transfer

Photo credit: US Army

Pictured here is the SWET app main screen. For an estimate of the fluid intake required to maintain optimal hydration, users only need to estimate the anticipated intensity of the activity, choose from among three categories of military clothing ensemble, and input weather conditions.

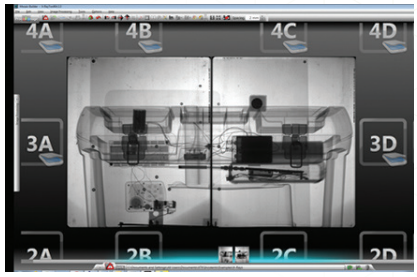
Through the power of the FLC's tools and services such as FLCBusiness, ATT and the Technology Locator, laboratories are offered other vehicles for marketing and advertising their technologies to industry. In keeping with our ongoing effort to promote, educate and facilitate T2, the following section is dedicated to some of the most recent available technologies that are ready for transfer. These featured technologies display the broad range and depth of scientific and technological innovations that our federal labs are capable of—all of which are available for licensing, agreements, or collaborative partnerships.

SWET Mobile App – U.S. Army Research Institute of Environmental Medicine

The U.S. Army Research Institute of Environmental Medicine (USARIEM) and the Massachusetts Institute of Technology Lincoln Laboratory developed a user-friendly mobile app aimed at detecting environmental conditions and their potential impact on hydration. The intent is to help combat unit leaders predict how much water to carry each day, minimizing the weight of transport loads while ensuring proper hydration.

(For License) X-Ray Toolkit: Explosive Ordnance Disposal Decision Support Tools – Sandia National Laboratory

The X-Ray Toolkit (XTK) was developed for Explosive Ordnance Disposal (EOD) technicians, under government funding from NNSA and TSWG. The technology supports image acquisition and enhancement, with features including sharing tools and after-action reports. This allows EOD professionals to capture, analyze and share suspect devices and more precisely aim tools to disable explosive devices. With added tools such as mosaic picture stitching, training scenarios and a user-friendly interface, XTK has the ability to go beyond EOD and into the larger emergency response community and contraband detection. Sandia National Laboratory has been working closely with industry partners since 2014. Today, several partners have acquired licenses for Grid Aim system distribution as for developing XTK training courses.

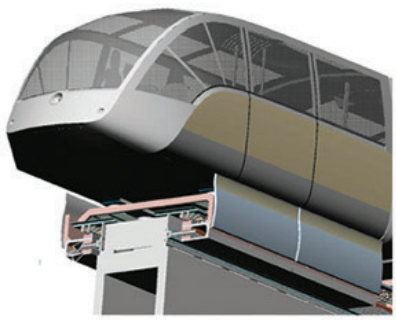


X-RAY TOOLKIT (XTK)

XTK supports image acquisition from a variety of commercial scanners and provides image enhancement, measurement, and markup tools through a modern and user-friendly interface. In cases, XTK can be used to perform precision disruptions — disabling a device while reducing collateral damage and preserving forensic evidence.

Inductrack – Lawrence Livermore National Laboratory

The Lawrence Livermore National Laboratory has taken magnetic levitation technology and improved it to create an opportunity for more fuel efficient, safer and more convenient train transportation. The technology uses permanent magnets to both levitate and propel the train. This technology is currently being developed in both Japan and Germany, however the Lawrence Livermore National Laboratory's Inductrack technology creates a more energy efficient and stable environment than the conventional maglev-based systems currently used internationally. Commercially, Inductrack can improve the performance of both high and low speed public transportation as well as delivery. In addition, the Halbrach array technology used in the Inductrack may have additional applications in high-energy-field research.



INDUCTRACK

Drawing of the front end of urban maglev vehicle showing the vehicle's levitation/ propulsion module. Dual Halbach arrays of permanent magnets are positioned under the train car to provide the levitating force.

Photo credit: Tom: Sandia National Laboratory. Bottom: Lawrence Livermore National Laboratory

Accessible Education for Commercialization

When it comes to assisting newcomers and seasoned professionals with fundamental technology transfer questions, the FLC is committed to providing high-quality education courses and resources that are easily accessible for all. Educating individuals about the commercialization process and how best to navigate through negotiations, partnerships and agreements are foundational elements that enable the FLC to better facilitate and promote T2 successes for its members and industry. To make it easier for members and industry to grow their T2 skills and access the organization's wealth of educational resources, the Education and Training (E&T) Committee took FY14 to focus on expanding its virtual training course library.

Through its online learning initiative, the E&T Committee continued to develop e-courses on Cooperative Research and Development Agreements (CRADAs)—federal laboratories' most common T2 process—and developed tablet-friendly e-courses for convenience and on-the-go access. Another FY14 curriculum objective was to focus on transferable skills such as negotiation. The Committee partnered with the American Management Association (AMA) to deliver an intensive four-week online workshop, "Negotiating to Win," and a one-day Negotiating Skills workshop in each region throughout 2015.

To add to its already extensive library of educational resources, the Committee published two new white papers: "Basic Understanding of Intellectual Property" and "Federal Laboratory Designations," which provides a better understanding of federal laboratory differentiations.

The E&T Committee also continued producing webinars that offered members and industry valuable insights on how to better market their technologies as well as strategize the commercialization process. These free webinars were available live during the FLC's first-ever Tech-to-Market Virtual Forum (TTMVF), and recordings have since been posted on the FLC website for viewing. Featured below are the T2 webinar topics and titles that were featured at TTMVF.

2014 E&T Featured Webinars

Along with successful participation numbers for the TTMVF training webinars, attendance at the four day-long interactive training courses held at the national meeting increased significantly from previous years. These courses covered the core curriculum about understanding federal T2. An experimental advanced-level course, "From Discovery to Commercialization," added to the training lineup took learners through all stages of technology transfer.

FEATURED WEBINARS

- "What's Your Story: How to Write Compelling Technology Fact Sheets"
- "Get Results with FLCBusiness"
- "Lab-to-Market: The Road Ahead"
- "Technology Valuation: How to Negotiate a Fair Deal by Determining What Your Technology Is Worth"
- "Your Move: Case Study in Licensing"

E&T Committee FY15 Plans

In the year ahead, the E&T Committee will continue to focus on burst learning and online learning opportunities, and establish ongoing course themes. The Committee will continue to seek out and assess new online learning tools and products that can improve existing course offerings and expand members' learning. In addition to these goals, the Committee has made FY15 a year for sharpening soft skills—in particular, technology marketing, a skill many members have indicated they would like to hone given the strengthening of agency-wide lab-to-market initiatives.

The E&T Committee is also collaborating with the Communications Committee to produce a short video that defines federal T2 and showcases its successes for a larger industry audience. Ideas for a T2 video have been in the works for some time, and production is now underway.

Other plans for FY15 include exploring a certificated program and process that will add great value to E&T's core curriculum, as well as mentorship opportunities outside of onsite training sessions so as to encourage informal learning among members.

Community Progress through Innovation

Through the work of the FLC's State and Local Government (S&LG) Committee and Regional Coordinators, regional, state and local organizations are able to gain better access to federal resources for the improvement of their community and economy. Many technologies developed in federal labs would not see their full application potential without the partnerships that are formed between labs and their state and local governments. These partnerships are vital to contributing to our nation's overall economic success. Thanks to the work of state and local economic development offices, the collaborative R&D that takes place with local industry representatives, academic institutions and federal labs, the T2 process and innovation can continue for the benefit of all.

During FY14, the S&LG Committee published the findings from its first phase of a technology-based economic development (TBED) study entitled "Innovation Partnership Networks in the Midwest." Conducted in cooperation with the Midwest Region, the study documented the network of Midwest federal labs and TBED entities. From the data collected by the Indiana Business Research Center (IBRC),

MONITORING THE ENVIRONMENT

Technologies developed in laboratories around the country have the potential to change lives for generations to come. From improving air and water quality to offering solutions to habitats fragmented by roadways, partnerships between federal laboratories and state and local governments bring enormous promise to the future of environmental monitoring and planning.

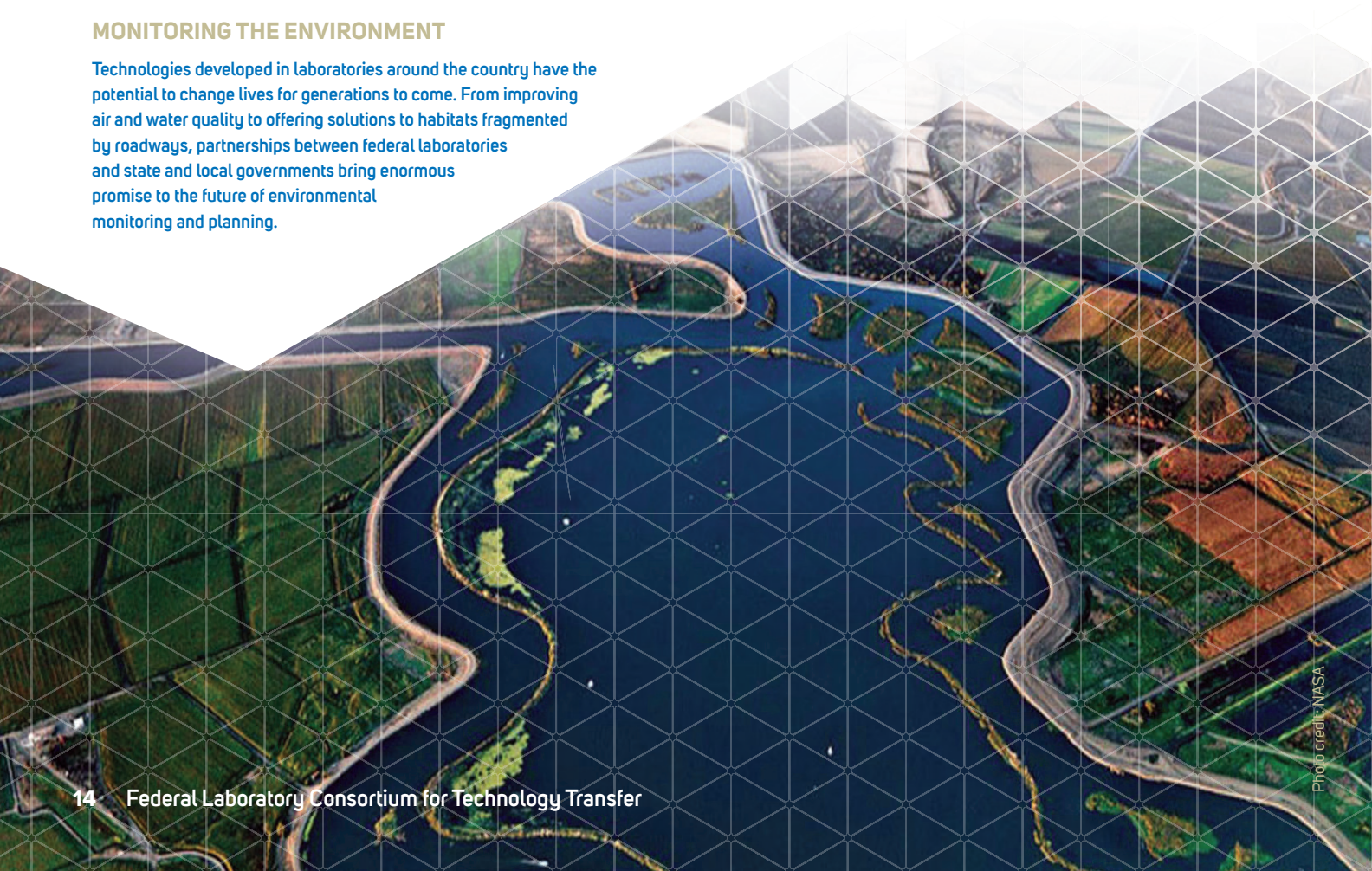


Photo credit: NASA

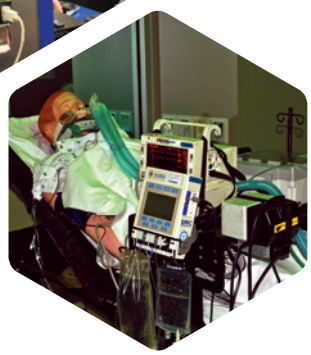


Photo credit: Volpe Center (Education and Outreach), Marvin Shelton, USAFSAM/ETS (Developments in Emergency Response and Medicine)

EDUCATION AND OUTREACH

By developing and maintaining strong relationships with state and local governments, schools of all levels, and individual business owners, federal labs have the ability to extend the effectiveness of technology transfer activities into the future.

DEVELOPMENTS IN EMERGENCY RESPONSE AND MEDICINE

Technology transfer can immediately impact local communities when emergency responders in the medical field are provided with tools to make their jobs safer and more efficient.

the findings of this study will help Midwest laboratories better identify which TBED and investor groups could be potential partners to work with in the future.

The results from the nearly 250 TBED entities and the recommendations from more than 50 interviews with TBED staff provided the S&LG Committee and the Midwest laboratories with a clearer direction on how to increase technology commercialization and engage local stakeholders. Recommendations from TBED entities included:

- Increase federal laboratory visibility for better networking opportunities with industry
- Market laboratories and technologies to TBED groups in their state and region
- Develop new, as well as support existing, initiatives to help entrepreneurs get over the technology “valley of death”
- Incentivize laboratory researchers and technology transfer personnel to be more entrepreneurial
- Study and replicate success.

To better assist all regions in identifying potential TBED groups and investors to partner with their laboratories, the S&LG Committee kicked off the second phase of this pilot study with the Midwest Region. Data collection for the study is already well underway through the use of Innography, an online software program. Phase II of the pilot study will analyze the collective intellectual property portfolio belonging to the individual federal labs in the region. The findings will help to pinpoint key innovation market areas in the Midwest Region to assist labs with establishing industry relationships and better marketing their technologies for collaborative purposes.

Photo credit: Bill Stengel Photography

IMPROVING SYSTEMS AND OPERATIONS

Matthew Anderson (left) and Jodie Boyce (right) work on an unmanned aerial vehicle in Idaho National Laboratory's Autonomous Systems Laboratory.

Efforts for Future Strategic Partnerships

In coordination with the Midwest regional officers, the S&LG Committee is aiming to complete Phase II of the Midwest Region pilot study in FY15 and report the findings so other FLC regions can assess whether to conduct similar studies for their regional labs. The FLC Far West Region has already expressed interest in conducting a similar TBED pilot study for its regional labs, and a pilot study to catalog TBED groups in the Region is set to commence sometime in FY15.

In addition, the S&LG Committee will publish its biennial publication, Federal Laboratories & State and Local Governments: Partners for Technology Transfer Success, which highlights successful partnerships between federal laboratories and state and local governments. The book will be disseminated to members of Congress, Cabinet members, agency representatives, laboratory representatives, and members of the FLC and State Science and Technology Institute (SSTI) communities.

The S&LG Committee also aims to strengthen its coordination with SSTI, a nonprofit organization that offers services to those involved in TBED to improve initiatives that support economic growth through science, technology, innovation and entrepreneurship. Since SSTI and the S&LG Committee share similar initiatives, the two groups are planning a combined activity to leverage their expertise and interest among labs and industry.

When industry, academia and government come together in the spirit of innovation, the true value of the FLC is revealed. This is where technology transfer has the opportunity to make a real impact on people's lives.

- Kathleen Graham, State and Local Government Committee Chair

Photo credit: Left: INL. Right: NIAID

Promoting T2 Successes

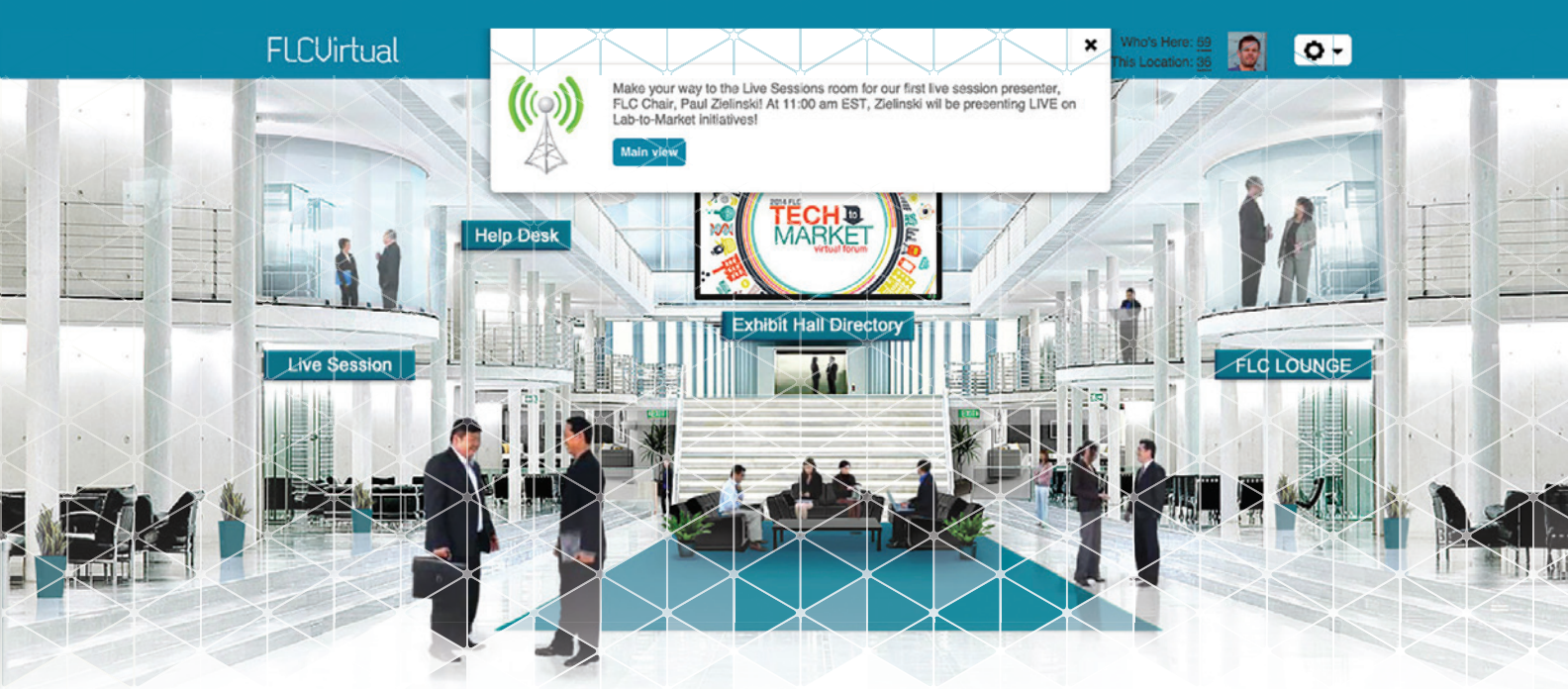
Two of the core ways for the FLC to fulfill its mission of connecting federal laboratories with industry are sharing tech transfer success stories and promoting the available technologies, partnerships, and innovative R&D that our federal labs carry out every day. Communicating these significant T2 strides is a top priority for the FLC, which is why the Communications Committee strategizes new, inventive ways to disseminate information about the lab-to-market goals and technologies of its members.

Spotlighting Federal Technologies

Energized by the FY13 development and FY14 launch of its latest business resource tool, FLCBusiness, the Communications Committee was eager to implement new ways to help federal labs and industry connect in support of agency-wide commercialization initiatives. In FY14 the Committee transitioned the organization's communications approach into the digital age through the successful organization and execution of a virtual conference. Aligned with the Administration's push for showcasing more available federal technologies, the FLC Tech-to-Market Virtual Forum (TTMVF) was the first-ever virtual meeting that featured successful participation and ample networking opportunities for both labs and industry. With no cost to attend, TTMVF was held over two days in FLCVirtual—an FLC designed and branded online space that contained live and on-demand webinars, an exhibit hall, and a help desk and lounge manned with FLC representatives answering T2 questions in real time. Over 30 federal laboratories participated as exhibitors, showcasing more than 80 of their latest available technologies ready for licensing or partnership. Each lab's booth was staffed by a laboratory representative available to answer visitor questions in real time.

The event also featured live and on-demand webinars and training sessions from both public- and private-sector speakers. Highlights of session topics included:

- Lab-to-Market the Road Ahead
- Commercialization Success Tools: Strategic Marketing for Your Tech Transfer Office
- Technology Valuation: How to Negotiate a Fair Deal by Determining What Your Technology Is Really Worth
- Get Results With FLCBusiness.



The totals below reflect the event over its two-day period:

300+	Number of Event Participants
1 hr 34 mins	Average Duration in FLCVirtual
34	Number of Exhibitors
767	Number of Webinar views
663	Number of Available Tech downloads
1,522	Total Number of Content Views

With over 300 event participants and hundreds of webinar views and downloads throughout the two-day conference, TTMVF was a success for the FLC. By keeping the event at zero cost for attendees and no fees for labs to exhibit, the FLC event attracted a large number of attendees, providing labs with greater visibility for their available technologies. Plans for a future similar virtual conference are being assessed. If a second virtual conference does take place, the Committee plans to strengthen the event marketing plan to target more specific industries based on the applications of the available technologies being showcased.

Measuring the Success of TTMVF

While the objective for the TTMVF was to offer an additional, low-cost opportunity for labs and industry to take advantage of education and training opportunities, the FLC also saw FLCVirtual as a prime space to foster discussions between industry and the federal labs. TTMVF also served to help the Executive Board analyze its potential as a biannual substitute for national and regional meetings should future budget restraints occur as they did during FY13. While nothing has been decided as a potential means for replacing any other FLC events, the numbers presented during TTMVF show great promise for future FLCVirtual participation.

Expanding the FLC Community

Whether putting out annual publications or marketing collateral, or posting about the latest news from labs through its online blog, FLC NewsLink, the FLC is constantly striving to release valuable information and resources to aid the entire FLC community with their T2 efforts. Through its social media outlets (i.e., Twitter, Facebook, LinkedIn, and YouTube), the Consortium advocates the cutting-edge R&D of its members to a growing network of inventors, scientists, engineers, entrepreneurs, T2 professionals, and academic institutions, among many others.

To help its members and industry feel better connected, the FLC uses its national social media channels as a means to gain exposure for federal labs and their available technologies. Messages such as tweets about a licensing agreement between a lab and a minority business, or a Facebook post about a vaccine breakthrough thanks to medical research at National Institutes of Health (NIH) labs, help the public to better understand that their tax dollars are going toward projects and technologies that improve our society.

In FY14, the Committee saw significant strides in its social media activity and plans to use the upcoming year to strengthen FLC brand awareness and promote the organization's T2 tools and services to a broader industry audience. Through additional press releases, white papers and R&D success stories, the Communications Committee is eager for industry to know the T2 possibilities and access that federal labs can offer business.

FY15 FLC Communications Initiatives

Coming off two consecutive years of successful launches (i.e., FLCBusiness in FY13 and TTMVF in FY14), the Communications Committee has several exciting new developments that will bring a new wave of public-facing marketing initiatives. To kick off FY15 and celebrate its 30th year since being congressionally chartered, the FLC unveiled its new branding and branding message—featuring a more modern look and feel that reflect the progressive achievements and innovations of its member laboratories and research centers. The new branding was officially unveiled at the 2015 FLC national meeting in Denver, Colorado.

All of the new branding will complement the design and organization of the new FLC website, which is currently underway and remains a major initiative for the Committee to complete by FY16. The site will feature the following new features, along with updated content and a fresh, new interface for users:

- An updated and streamlined T2 Agreement Finder
- A T2 mentor forum and job board
- An interactive regional and state profile map
- T2 success stories gallery
- A new learning platform to deliver e-learning courses and webinars.

In conjunction with the new LaBS (Laboratory and Business Systems) Committee, the Communications Committee is planning major enhancements for FLCBusiness. This "FLCBusiness 2.0" project (the plans for which are covered more extensively in the "FLC Tools & Services" section of this report on pages 10-13), will include an integration of the widely used Available Technologies search tool, as well as the potential for a pseudo FLC Technology Locator chat feature. With the approval of this project, FLCBusiness 2.0 databases will be groomed to provide the ultimate leveraging of federal resources.

Along with these exciting new development projects, the Communications Committee also plans to design and create an updated FLC trade show booth, FLC informational brochure, FLC Style Guide, and additional marketing collateral to complement the new branding.

FLC REBRANDING

The FLC unveiled its new logo at the 2015 national meeting in Denver, CO. Pictured above are the unique brand colors chosen for each FLC region. To ensure consistent branding across all communication channels, the Committee prepared a set of branding guidelines for internal and external use.

Accelerating Innovation for Economic Impact

After cancelling the FY13 annual national meeting due to government-wide budget constraints and travel restrictions, the Program Committee committed to keep attendees' travel costs low while delivering a rich educational and professional agenda. The FLC held the national meeting in late April in Rockville, Maryland, a location close to many government agencies' headquarters. To complement the Administration's T2 lab-to-market initiatives, the meeting centered on the theme of "Accelerating Innovation for Economic Impact."

With over 400 people in attendance, the FLC national meeting brought together a diverse crowd of tech transfer professionals, scientists, inventors, small businesses, and industry representatives. Over the course of three days, the meeting agenda featured several training courses, various panel sessions, an Industry Day, and live-streaming of selected speakers and sessions.

The meeting kicked-off with a full day of T2 training courses designed and delivered by the E&T Committee along with several experienced T2 speakers. The meeting was officially opened by FLC Chair Paul Zielinski and Montgomery County, Maryland Executive Isiah (Ike) Leggett, who officially declared April 2014 as "Laboratory Partnership Month" in the county. Keynote addresses were given by Congressman Chris Van Hollen of Maryland's 8th District, who discussed the economic benefits of public-private partnerships; and John Serafini, Vice President of Allied Minds, a company built upon the fundamentals of T2 that strives to transform U.S. invention into innovation.

Keynote speaker Congressman Chris Van Hollen of Maryland's 8th District discussed the economic benefits of public-private partnerships.

The first day of sessions focused on various ways for attendees to learn from other T2 professionals' experiences, as well as how to strategize for marketing their laboratory technologies to industry. Session topics ranged from a human elements panel to how to use social media and other tools for T2 success. Other sessions included scientists' perspectives on T2, as well as a discussion on the growing importance of interagency collaboration.

To round out the meeting, the FLC hosted its annual Industry Day—when members from businesses ranging from large corporations to local startups network with federal lab representatives and each can share their needs and begin the T2 process. Delivering the Industry Day keynote address was Daryl Pelc, Vice President of Engineering and Product

Support for Boeing Defense, Space and Security's Global Services and Support. Pelc discussed Boeing's philosophy on pursuing technologies outside of the company to satisfy the needs of its own business units, and shared some examples of Boeing partnerships and collaborations that have produced concrete results in meeting those needs.

Highlights from Industry Day that garnered great feedback from attendees were sessions in the following areas:

- "What Can Federal Labs Learn From Silicon Valley Startups?" featuring speakers from the National Science Foundation's Innovation Corps
- Industry Technology Needs Panel, featuring representatives from Monsanto Company, BASF Corporation, SRI International, Michelin Americas Research and Development Company, and Praxair, Inc.
- Lab-Industry Executive Forum.

Capping off the meeting were the FLC awards reception and banquet, where winners of the FLC national awards were honored for their outstanding T2 achievements.

Following the success of the 2014 FLC national meeting, the 2015 FLC national meeting officially took place from April 28 – 30 in Denver, Colorado. The theme was "Reaching New Peaks With Technology Transfer," and the meeting paralleled the FY14 national meeting in high attendance, renowned speakers, and positive feedback.

A Social T2 Gathering

To keep attendees and T2 followers up-to-date on meeting updates, the FLC used the power of social media to share the latest meeting happenings in real-time! Through a promotional ads campaign via Facebook, Twitter and LinkedIn prior to the meeting, along with live tweets during meeting sessions, the FLC extended its social network and contributed to T2 conversations in-person and online.

2014 FLC National Meeting Social Stats

Stats represent a combination of Twitter, Facebook and LinkedIn social interactions from 3/24/14 – 4/24/14.

Honoring Lab-to-Market Achievements

Established in 1984, the FLC awards program annually recognizes federal laboratories and their industry partners for outstanding technology transfer efforts. Over 200 federal laboratories have been presented with an FLC award, making it one of the most prestigious honors in the world of technology transfer.

In 2014, the Awards Committee was pleased to introduce its new awards logo and branding, which are made accessible for all awards winners to share through their own media outlets. This year also brought 89 nominations that were submitted by federal laboratories. Judging panels comprised of distinguished scientists and engineers from federal labs, industry, academia, and state and local governments reviewed the nominations and selected the winners. While all of the nominees demonstrated notable achievements in their field, only 27 awards in 8 categories were presented to 20 labs across 6 agencies.

Categories range from awards in tech transfer excellence to stellar leadership by laboratory directors, and excellent work promoting science, technology, engineering and mathematics (STEM) education among students of all ages. This year's winners exhibited scientific and technological excellence in a wide range of areas—from a breast cancer vaccine developed to reduce recurrences to a collaborative technology partnership that has produced research and development breakthroughs for lithium-ion battery separators that drastically improve the safety of high-energy cells for various electronic applications.

LABORATORY DIRECTOR OF THE YEAR
Captain Joseph Beel & Carmela Keeney from SPAWAR Systems Center Pacific are awarded Laboratory Director of the Year at the 2014 FLC National Meeting in Rockville, Maryland.

To properly honor the dedicated men and women committed to accelerating technology in their field, the awards were presented in a ceremony at the FLC national meeting held in the Bethesda North Marriott Hotel & Conference Center in Rockville, Maryland, in April 2014. In addition to the awards, the winners also received congratulatory letters from the heads of their respective agencies, members of Congress, and governors.

Looking ahead to 2015 and beyond, the FLC will remain committed to making the awards program inclusive and representative of the diverse agencies that make up the Consortium's membership. The new fiscal year will also usher in new leadership for the program as James Poulos will pass on his duties as Awards Committee Chair. Winners of the 2015 awards were honored at a luncheon ceremony during the national meeting in Denver, Colorado.

2014 FLC National Awards Categories and Recipients

EXCELLENCE IN TECHNOLOGY TRANSFER

Department of Agriculture – Agricultural Research Service (ARS)

ARS Center for Grain and Animal Health Research
Development and Transfer of the Wind Erosion Prediction System

ARS Genetic Improvement of Fruits and Vegetables Laboratory
Novel 'Black Pearl' Pepper Cultivar

ARS Mid-South Area, Natural Products Utilization Research Unit
Pterostilbene: Its Role in Supporting Multiple Health Benefits

ARS, Mid-South Area, Warmwater Aquaculture Research Unit
Hatchery Technology for Hybrid Catfish Fry

NASA Dryden's Flight Research Center's Fiber Optic Sensing System (FOSS) is a breakthrough in monitoring and sensing technology, providing accurate measurements from items ranging from the wing of an aircraft to the tiniest catheter.

Photo credit: NASA

Department of Defense – U.S. Army

Uniformed Services University of the Health Sciences
Breast Cancer Vaccine to Reduce Recurrences

Madigan Army Medical Center/ U.S. Army Medical Research and Materiel Command
Mobile Obstetric Emergencies Simulator (MOES™)

Department of Defense – U.S. Navy

Naval Research Laboratory
Active-RFID Tracking System for First Responders

Naval Surface Warfare Center – Crane Division
Ultrashort Pulse Laser Technology and Applications Development

Naval Undersea Warfare Center Division Newport
Material Test Fixtures

Naval Undersea Warfare Center Division Newport
Waterside Security

Department of Energy

Argonne National Laboratory
SpEC: An SAE DC Charging Digital Communication Controller

Los Alamos National Laboratory
Hazardous Device Utility Tools – Bomb Disposal

Oak Ridge National Laboratory
ClimateMaster Trilogy 40 Q-Mode Geothermal Heat Pump

Oak Ridge National Laboratory
SYMMETRIX® HPX-F Lithium-Ion Battery Nanocomposite Separator

Pacific Northwest National Laboratory
Real Vision Head-Mounted Display

DEPARTMENT OF HOMELAND SECURITY

Science and Technology Directorate, Chemical Security Analysis Center
Project Jack Rabbit: Chemical Release Trials to Improve Modeling, Mitigation

National Aeronautics and Space Administration
Dryden Flight Research Center
Fiber Optic Sensing System

INTERAGENCY PARTNERSHIP AWARD

SPAWAR Systems Center Pacific
Department of Homeland Security
Sandia National Laboratories

LABORATORY DIRECTOR OF THE YEAR AWARD

Dr. Jeffery Holland
U.S. Army Engineer Research and Development Center

Joseph Wienand
Edgewood Chemical Biological Center

Capt. Joseph Beel and Carmela Keeney
SPAWAR Systems Center Pacific

OUTSTANDING TECHNOLOGY TRANSFER PROFESSIONAL AWARD

Kathy Dezern
Langley Research Center

ROOKIE OF THE YEAR AWARD

Michael Merriken
SPAWAR Atlantic

FLC SERVICE AWARD – HAROLD METCALF AWARD

J. Terry Lynch
National Institute of Standards and Technology

FLC SERVICE AWARD – OUTSTANDING SERVICE AWARD

Innovation Magazine

STATE AND LOCAL ECONOMIC DEVELOPMENT AWARD

Glenn Research Center
MAGNET
City of Cleveland
Cuyahoga County

STEM AWARD

Air Force Research Laboratory
Information Directorate

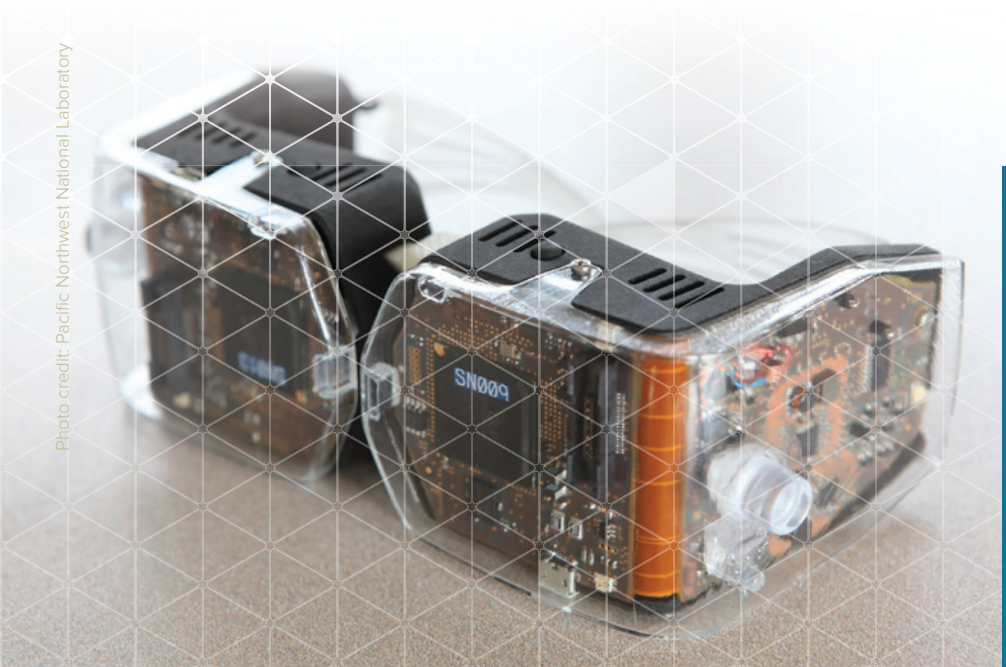


Photo credit: Pacific Northwest National Laboratory

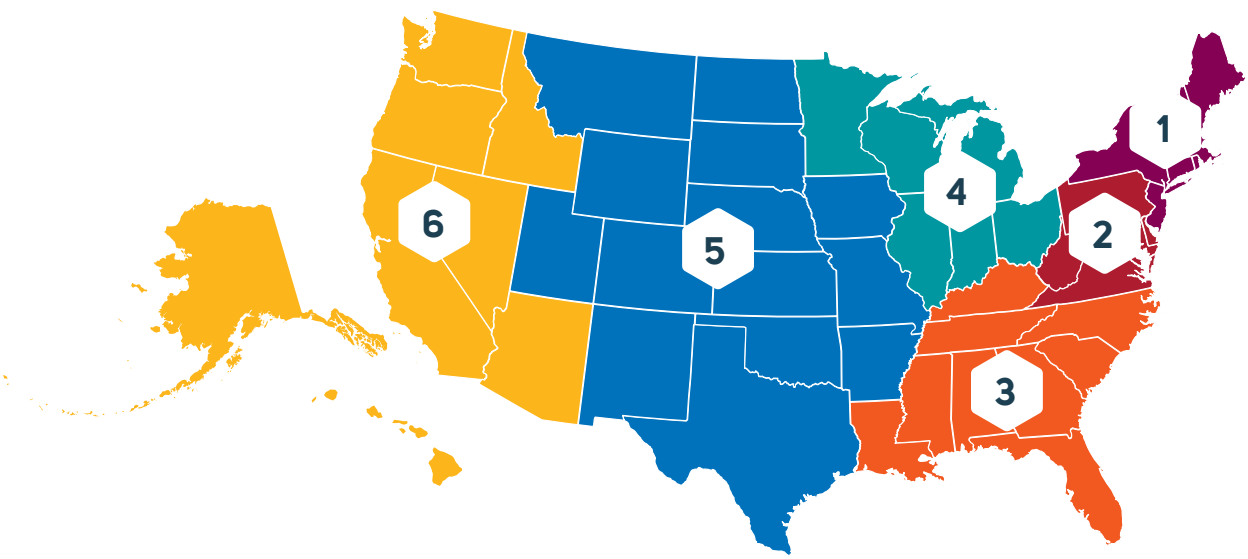
VIRTUAL RETINA DISPLAY: A NEW LOOK AT 3-D GOGGLES

The Department of Energy's Pacific Northwest National Laboratory received a Federal Laboratory Consortium award for developing this prototype virtual retina display, called Real Vision. The 3-D goggles use micromirrors similar to a projector to reflect light into the eye and could improve the sight of soldiers in dark battlefields and gamers immersed in virtual reality.

Laboratories United for Cross-Agency Initiatives

Support from federal laboratories and their tech transfer personnel is essential to accelerate innovation for economic growth. Due to this fact, the FLC depends greatly on the endeavors of its six geographical regions across the U.S. to raise awareness about the significant advantages that T2 can bring to industry markets. Thanks to the grassroots efforts of Regional Coordinators, Deputy Regional Coordinators and T2 advocacy groups, as well as the regional activities and events that occur throughout the year, federal labs are provided with tailored T2 education and training, and the networking opportunities needed to build lasting industry and cross-agency partnerships.

The regional activities that took place throughout FY14 enabled the FLC to grow its industry connections and assist labs with their technology marketing and T2 efforts. The following represent activities that FLC regions conduct each year to ensure that cross-agency initiatives are met and labs are provided with the information needed to facilitate their tech transfer goals.



1. **Northeast Region** – ME, VT, NH, MA, CT, RI, NY, NJ, PR
2. **Mid-Atlantic Region** – PA, DE, MD, VA, WV, DC
3. **Southeast Region** – AL, FL, GA, KY, LA, MS, NC, SC, TN
4. **Midwest Region** – OH, IN, IL, MI, WI, MN
5. **Mid-Continent Region** – AR, CO, IA, KS, MO, MT, NE, NM, ND, OK, SD, TX, UT, WY
6. **Far West Region** – AK, AZ, CA, HI, ID, NV, OR, WA

Far West Region

With over 50 laboratories spread out over eight western states—Alaska, Arizona, California, Hawaii, Idaho, Nevada, Oregon and Washington—the FLC Far West Region offers an abundance of federal resources for entrepreneurs to benefit from. This year, the Region chose to focus much of its time on forging industry connections at local conferences, and hosting training sessions and meetings for regional labs.

For example, the Region partnered with the WBT Open Innovation Forum at the San Diego Global Connect Summit in San Diego, Calif., where regional officers and lab representatives presented sessions on "Industry Partnerships With Federal Labs - Why They Work and What's in It for You." Far West labs held one-on-one meetings with venture capital and angel investors, entrepreneurs, small businesses, primes and universities. The Region also presented a "Partnering With Federal Labs" session at the National Defense Energy Summit in Austin, Tex. Attendees included small high-tech businesses, energy entrepreneurs, large industries, and universities.

Aside from representing the Region at conferences, regional officers took to the road to make their 2013 regional awards presentations at several regional labs in California, including Lawrence Livermore National Laboratory, where 50 lab researchers, program managers, and the laboratory director learned about successful award-winning outcomes from technology transfer efforts at their laboratory.

Similar award presentation ceremonies were held at the Western Regional Research Center of the USDA Pacific West Area in Albany, California, and NASA Ames Research Center, Moffett Field, California. Taking these award programs to the labs gave a great deal of exposure to lab personnel who otherwise would not have known about this excellent work, and helped to raise excitement in the laboratory.

Photo credit: SPAWAR Systems Center Pacific

SPAWAR Systems Center Pacific was the recipient of the 2014 FLC Interagency Partnership Award where they partnered with the Department of Homeland Security and the Department of Energy to develop, test, evaluate, and transition new cargo security technologies to meet specific requirements.

The Far West Region attended a Technology Transfer Summit sponsored by the city of Murrieta, California, an important part of the state's Inland Empire. Several lab representatives made presentations to small businesses and various city and county supporters throughout Riverside County, California.

Regional officers also attended the Technical Business Industry Day at the Naval Surface Warfare Center (NSWC), Corona Division, Norco, California. The Region worked with NSWC's commanding officer to make presentations to small businesses, industry partners and academia on T2, Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR).

The Far West Region also organized, led, and moderated a discussion panel at the National SBIR Conference and the National Innovation Summit in Washington, D.C., to promote federal lab opportunities and present experts with differing lab perspectives, including the commercialization of federal technologies and obtaining technical assistance from federal labs.

This year's annual regional meeting was held jointly with the Mid-Continent Region in Denver, Colorado. The training meeting included an Incubator and Accelerator Forum, a presentation on the federal Office of Science and Technology Policy's (OSTP) "From Lab-to-Market Results" and "Administration Recommendations," as well as "Measuring Laboratory Impact on Economic Development," and presentations from the WBT Open Innovation group.

Regional awards for 2014 included five Outstanding Commercialization Success awards, two Outstanding Partnership awards, seven Outstanding Technology Development awards, Technology Transfer Professional of the Year, and Laboratory Representative of the Year.

Mid-Atlantic Region

Within the Mid-Atlantic Region, regional laboratories have access to the best tech firms, health care facilities, colleges and universities, and business incubators with which to partner. The region kicked off the fiscal year by participating in several technology-based economic development (TBED) and innovation conferences with objectives that aligned perfectly with the Region's goals of offering more venues for regional laboratory representatives to network, market their technologies to industry, and form cooperative partnerships. A few of the regional events that FLC representatives participated in were the Maryland Economic Development Association annual meeting in Cambridge, Maryland, in April 2014; the Northern

Virginia Technology Council roundtable; the Innovation Commercialization (I2C) Conference; and the Mid-Atlantic regional meeting in Baltimore, Maryland.

The Mid-Atlantic Region handed out 13 awards in the categories of Excellence in Technology Transfer, Educational Institution and Federal Laboratory Partnership Award, STEM, and Honorable Mentions to regional laboratory teams and their academic or industry partners. Recipients' projects ranged from a low-cost tissue microarrayer instrument that supports improved cancer diagnoses to educational outreach programs.

One winner of the Award for Excellence in Technology Transfer was the 'Flavorfest' Strawberry Cultivator developed by scientists from the USDA-ARS Beltsville Agricultural Research Center's (BARC) Genetic Improvement of Fruits and Vegetables Laboratory. Named for their excellent fruit flavor, these novel, mid-season strawberries are large, bright red, and appear distinctively plump. Best adapted to the Mid-Atlantic and northeastern U.S. and adjacent areas, this variety is well-suited to replace the current bestselling strawberry in the region, 'Chandler', because its disease resistance, yield, flavor, and post-harvest quality are superior.

After the BARC team actively promoted the new strawberry, a Material Transfer/ Propagation Agreement was executed with the dominant strawberry nursery in California, Lassen Canyon Nursery (Lassen), to propagate 'Flavorfest.' Thereafter, Plant Test Agreements took place with reputable U.S. and Canadian nurseries and producers to test the strawberry. After positive feedback from all growers testing 'Flavorfest', a Plant Invention Disclosure was filed, along with a request for public release that was later approved in December 2012. With the continued marketing activities of the Beltsville team throughout this process, Lassen received orders for more than double the amount of plants it had on hand for distribution by January 2013.

Photo credit: USDA-ARS

In 2014, sales to growers were 20 times greater than those in 2013. A March 2014 email from Lassen to the USDA-ARS team stated, "It was a combined effort; you also did a great job passing the word around, so thank you! Total sales were ¼ of a million plants." Lassen sold out well before the 2014 spring planting season (approximately 100,000 plants combined), and reported that it would be "ramping up production" for 2015.

'FLAVORFEST' STRAWBERRY CULTIVATOR

The successful transfer and dedicated marketing that got 'Flavorfest' to market is a prime example of how dedicated lab personnel like the Beltsville team work to benefit the lab, businesses, and industry markets across the country.

The successful transfer and dedicated marketing that got 'Flavorfest' to market is a prime example of how dedicated lab personnel like the Beltsville team work to benefit the lab, businesses, and industry markets across the country. This is just one of the many successful R&D stories that take place throughout every FLC region in an effort to boost cross-agency initiatives.

The Beltville team and the other regional tech transfer award winners were honored for their accomplishments on November 19, 2014, at the Mid-Atlantic regional meeting. The meeting was aptly themed "Federal Labs as Beacons for Innovation and Entrepreneurship," playing off its location at the Maritime Institute of Technology and Graduate Studies in Linthicum Heights, Maryland.

The Region's FY15 goals are to hold a one-day forum highlighting federal research on mapping, satellite, and sensor technologies as applied to managing the environment. The forum is set to take place in Chestertown, Maryland, in October 2015. Following the forum, the Region will hold its annual meeting in Rockville, Maryland, in November. Other regional activities include a "Negotiating Skills" workshop in Arlington, Virginia, in July 2015, as well as a forum on creating federal partnerships with women and minority businesses scheduled for January 2016 .

Mid-Continent Region

With over 100 laboratories spanning Arkansas, Colorado, Iowa, Kansas, Missouri, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah and Wyoming, the Mid-Continent Region offers a wealth of innovative resources to the country's scientific and technological landscape. Coming off another successful joint meeting with the Far West Region, Mid-Continent regional officers were eager to carry out several initiatives to benefit labs across the region.

Major Mid-Continent Initiatives Completed for FY14:

- Enhance access to federal labs/facilities by offering tours of federal facilities as part of the regional meeting. In 2014, meeting participants toured the National Renewable Energy Laboratory (NREL).
- Raise awareness of the regional awards program as it is a very valuable tool to get laboratories to participate in the FLC. The program also gives the FLC excellent advertising at a national level. Each year, better award submissions are received, and the award selection process is comparable to any national awards program.
- Increase attendance at FLC meetings. The Region accomplishes this goal by selecting a meeting location in an area rich in federal facilities and offering training in current topics geared for the technology transfer professional.

Members of the National Renewable Energy Laboratory executive Energy Leadership Institute tour one of the labs at the Science and Technology Facility at NREL.

The number of participants attending the 2014 Denver regional meeting increased, with about 25% of the attendees from the Colorado area.

Offer a variety of training topics for meeting attendees, including:

- **Technology Portals and Online Tools:** Web Portals and Tools That Increase the Visibility of Federal Intellectual Property
- **Measuring Laboratory Impact on Economic Development:** Metrics That Satisfy Congress and Other Lab Constituents. What We Measure, How to Measure, and Who Cares?
- **Prize Competition Authority under Stevenson-Wydler Technology Innovation Act (15 USC 3719) and America COMPETES Act**—New open innovation mechanism for federal agencies to harness the collective innovative capacity of American public and private sectors to solve problems, spur innovation, and rapidly commercialize new technologies.
- **Demystifying the Technology Transfer Process:** Top Standoffs Between Companies and Labs and How to Solve Them.
- **Measure Laboratory Impact on Economic Development**—Regional officers worked closely with the World's Best Technologies (WBT) through collaboration at the WBT meeting, where federal labs ran a session and participated in one-on-one sessions, as well as the regional meeting in Denver, Colorado, in August 2014. To facilitate identifying new partners and future matchmaking, WBT brought participants from 10 to 15 companies who gave short presentations on their company and technology needs to regional lab participants.

Along with completing these FY14 initiatives, regional officers hosted a WBT session for members during the regional meeting in Denver. Regional officers also presented at the Association of University Research Parks' (AURP) spring training and regional meeting in Tempe and Tucson, Arizona, respectively.

Photo credit: Dennis Schroeder/NREL

Midwest Region

In FY14, the Midwest Region focused on building pertinent relationships to move innovation out of its federal labs and into the commercial sector. The Region, which comprises Ohio, Indiana, Illinois, Wisconsin, Michigan and Minnesota, has a network of over 30 federal labs representing such agencies as the Department of Defense (DOD), the Department of Energy (DOE), the National Aeronautics and Space Administration (NASA), and the Environmental Protection Agency (EPA).

The Region piloted the FLC Midwest IP Portfolio Analysis Project as a follow-on to the Innovation Partnership Networks in the Midwest pilot study. The intent was to seek a better understanding of the Midwest Region's intellectual property (IP) assets and key technology strengths, both collectively and on an individual lab basis. An analysis of the collective IP belonging to the Region's individual labs found different technology areas within the patent portfolio and the key assets within each portfolio, which helped the Region to:

1. Gain an understanding and identify innovation themes (i.e., markets, areas, capabilities)
2. Communicate the theme(s) for commercialization and collaboration purposes as a collective region.

At the 2014 regional meeting, Innography (the firm contracted to perform the analysis) provided a detailed explanation of the results of its analysis, mapping a competitive landscape based on the entirety of the Region's active patent assets, as well as suggested next steps.

The 2014 Midwest regional meeting was held August 19 – 20 at the Indianapolis Marriott Downtown. Stemming from the FLC's ongoing mission to accelerate innovation and grow lasting industry and agency T2 partnerships, the meeting's theme was centered on building pertinent relationships to move innovation out of Midwest federal labs for private commercialization. While past regional meetings had an average attendance of 40-50 people, the 2014 meeting saw a large increase—up to 100 attendees—due to specifically marketing to various industry partners, some of which were identified in the first phase of the pilot project. The keynote speaker was Susan Ellspermann, the 50th Lieutenant Governor of Indiana. Highlights of the meeting included the Entrepreneur Commercialization Panel, the Capital Commercialization Panel, the Technology-Based Economic Development (TBED) Commercialization Panel, and a presentation of the results of the Midwest IP Portfolio Analysis Project.

FMC CORPORATION-ARGONNE PROJECT COULD EXPAND USE OF COMPANY'S LITHIUM TECHNOLOGY

Researchers have discovered how to overcome technical challenges that hindered use of Stabilized Lithium Metal Powder (SLMP®) in commercial applications by devising a way to incorporate a safe form of the lithium powder into any type of Li-ion battery, including those used for electric vehicles, enabling greater energy density, extended cycle-life and reduced manufacturing costs.

Photo credit: Argonne National Laboratory

Northeast Region

The Northeast Region has over 30 federal laboratories representing the DOD, DOE, Department of Homeland Security (DHS), National Oceanic and Atmospheric Administration (NOAA), Department of Transportation (DOT), and Department of the Interior (DOI). These laboratories are located in Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Puerto Rico.

In FY14, to assist its constituent laboratories with getting their technologies into the commercial marketplace, the Northeast Region focused its efforts on building partnerships with state and regional economic development corporations, non-governmental organizations (NGOs), and other organizations.

The 2014 regional spring meeting was held February 25 at Picatinny Arsenal, New Jersey. At this meeting, members discussed initiatives that the Region had undertaken in science, technology, engineering, and mathematics (STEM) outreach and presented an award to the best STEM proposal submitted to the Region. Training was also provided to participants in licensing, software and publications, and export control issues. While STEM has been the Region's primary initiative in

past years, members decided to shift their focus to assisting regional laboratories with performing their technology transfer mission.

The 2014 Northeast regional fall meeting was held September 10-11 at the U.S. Coast Guard Research and Development Center in New London, Connecticut. The theme of the meeting was "Collaborations for Entrepreneurship and Commercialization Between Federal Laboratories and Companies, Universities, and Organizations." Attendance extended beyond the technology transfer professionals from our laboratories, and invited guests came from state and regional councils and research institutes. Speakers included representatives from the Fraunhofer Center for Innovation at the University of Connecticut, the Fraunhofer Center for Sustainable Energy Systems, NYTECH Council, the National Research Council, and New Jersey Institute of Technology. Stimulating discussions took place between the representatives of these organizations and the federal laboratories regarding how federal labs could play a greater role in fostering manufacturing innovations.

Southeast Region

The Southeast Region's main initiatives in FY14 were to increase T2 training, recognition, networking, and outreach opportunities among its members, who include personnel from over 60 labs and facilities in nine states.

This year's training opportunities, which were administered by regional officers and seasoned T2 professionals, gave members the opportunity to grow their professional

3D ELECTRONIC PRINTING HOLDS PROMISE OF VARIOUS APPLICATIONS FOR SOLDIERS

James Zunino, Picatinny Materials Engineer at NE regional lab Picatinny Arsenal, displays an object that was created by an additive printing process. 3D printing gives engineers the flexibility to quickly print items of various shapes, materials, and structure and holds promise of various applications for soldiers."

skills. To kick off the training goals for the year, the Region provided a half-day training workshop on negotiation skills, which was delivered by Dr. Mark Reeves, Associate Director of Commercialization at Oak Ridge National Laboratory, and Mojdeh Bahar, Assistant Administrator for the USDA's Agricultural Research Services Office of Technology Transfer, based on their one-day workshop developed for the FLC national meeting. Another training session was held for members at the regional meeting in Atlanta, Georgia. Bill DeFeo of Social Faces Marketing gave this one-hour presentation on using social media to market laboratory technologies, with specific emphasis on Facebook and Google resources. Also at the regional meeting, Mojdeh Bahar presented information about the FLC's latest tool, FLCBusiness, and attendees were given a rundown on how to access and update their laboratory profiles and laboratory resources to leverage to industry.

2014 FLC SOUTHEAST REGION PROJECT OF THE YEAR: BUSINESS STUDENTS ACCELERATE NASA TECHNOLOGY TO MARKET

The original breadboard prototype developed by Robert Youngquist is pictured with the prototype kit developed by the Rollins MBA team. The kit will be sent to potential licensees as part of the commercialization plan.

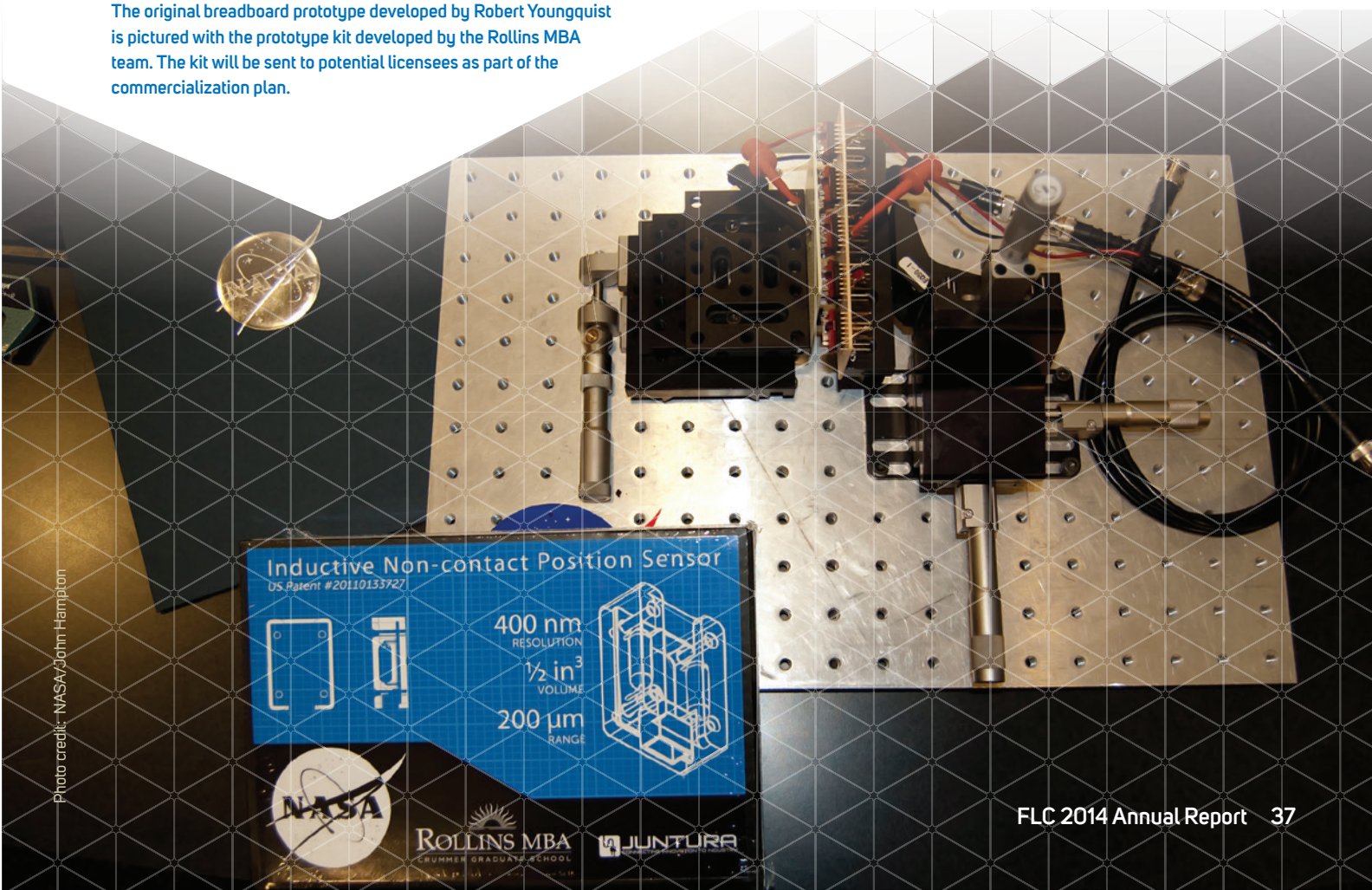


Photo credit: NASA/John Hampton

Regional Activities

The Southeast Region also presented several awards for T2 excellence, as well as a new award for STEM education support, at the ARS Mid-South Area Leadership conference. Regional officers and members also participated in various networking events to increase greater exposure for their available technologies and offer a gateway for laboratory and industry partnerships.

The regional meeting was held August 13-15, 2014, at the Centers for Disease Control's Tom Harkin Global Communications Center. Regional Coordinator Dr. Ramona Travis of NASA Stennis Space Center led the meeting and facilitated discussions on topics such as "innovations in technology transfer at the regional labs" and "triaging technologies." Attendee evaluations of the meeting highly praised the open and facilitated group discussions of issues and best practices in technology transfer. These discussions have continued among laboratory representatives outside the meeting.

To gain more traction for the FLC national brand and the T2 efforts of its regional laboratories, Southeast regional officers and members have been steadfast in community outreach participation. The Region's Facebook page continues to update its followers on the latest T2 news from around the region, covering such stories as the NASA-developed air traffic management tool that is now in use at major commercial airports thanks to technology transfer, as well as announcing the opportunity to "Explore Oak Ridge National Laboratory (ORNL) 2015"—an event that invites companies to learn about partnering opportunities with the laboratory for technology and product development.

Four Southeast laboratories joined the Startup Quest® program as technology source institutions for a grant funded by the U.S. Department of Labor and administered by a consortium of eight workforce innovation boards in Florida. Regional laboratories were approached by the Regional Support Office, which is also involved in the Startup Quest® program, and encouraged to participate. Six of the nine technologies selected by mentors in the Startup Quest® training program were from NASA Kennedy Space Center, Stennis Space Center and Marshall Space Flight Center, all in the Southeast Region. At least two of the technologies are currently in licensing discussions.

FLC Southeast Plans for FY15

To further the initiatives set in FY14, the Southeast Region and its officers have numerous activities planned for FY15. Aside from the annual Southeast regional meeting that took place on August 11, 2015, at the Y-12 National Security Complex in Oak Ridge, Tennessee, momentum for commercializing regional laboratory technologies is definitely building throughout the Region.

- Elections for Regional Coordinator and Deputy Regional Coordinator were held at the FLC national meeting in Denver, Colorado
- A one-day training workshop on negotiating skills hosted by the Region and delivered by an American Management Association certified trainer will be held August 11, 2015, at the Y-12 National Security Complex in Oak Ridge, Tennessee
- Build outreach activity and follower engagement through regional social media channels
- Increase user analytics through refreshed content on the Southeast Region website
- Update regional laboratory banners to reflect the new FLC logo.

SYMMETRIX® HPX-F LITHIUM-ION BATTERY NANOCOMPOSITE SEPARATOR

Porous Power Technologies, LLC (PPT), in collaboration with Oak Ridge National Laboratory (ORNL), has developed SYMMETRIX® HPX-F, a polymer-ceramic composite separator for commercial lithium-ion batteries that is much safer than conventional polyethylene and polypropylene based membranes. Shown here is Jagjit Nanda with the controlled environment for the fabrication and assembly of lithium-ion battery cells.

Photo credit: Oak Ridge National Laboratory

Aiming for Future T2 Success

In response to the previous year's fiscal budgetary constraints, the FLC Executive Board saw FY14 as a year to strengthen each Committee's cost-effectiveness while increasing communication among its members and with industry. Activities such as the Tech-to-Market Virtual Forum and the launch of FLCBusiness are prime examples of how the FLC can operate under strict time limits to produce new innovative events and tools to meet the needs of its members and industry partners, and remain focused on agency-wide commercialization goals.

The Executive Board and its committees are extremely confident that the tools, services and activities planned for FY15 will strengthen the FLC community as well as open new doors for industry. The FLC has big plans that are reflected in the implementation of several technology transfer initiatives that will continue well beyond FY15.

FLC Goals and Initiatives

FLC
Federal Laboratory Consortium for Technology Transfer
Promoting, Educating and Facilitating Technology Transfer

- Strengthen industry partnerships through networking at regional meetings and through state and local government interactions.
- Redesign the FLC website and launch the rebranding of the FLC image.
- Develop FLCBusiness 2.0 with the integration of the Available Technologies search tool and numerous other features to improve the system as a service for lab representatives and industry.
- Solidify the goals and objectives of the new LaBS Committee.
- Create new and relevant T2 e-courses and live webinar series.
- Streamline the T2 Mechanisms Matrix database to make it easier for labs and industry to understand and navigate.
- Continue to improve industry representation during the FLC national meeting's Industry Day by inviting their participation in 2016 national meeting panel sessions.

Implementing the FLC's Strategic Plan

The FLC Planning and Policy Committee led a 9-month strategic planning effort that culminated in October 2014 with the approval of a new 5-year FLC Strategic Plan by the FLC Executive Board. The new Strategic Plan has been posted on the FLC website (www.federallabs.org), and the various FLC committees and regions will annually develop individual implementation plans that will inform and guide budgetary decisions and Consortium actions. The key elements of the new Strategic Plan are:

Mission

The mission of the FLC is to foster the transfer of technologies and capabilities from federal laboratories so as to enhance U.S. economic and national security, and meet societal needs through support to the laboratories' Offices of Research and Technology Applications.

Vision

The FLC's recognized leadership in driving success in federal laboratory technology transfer ensures the greatest return on U.S. investment in research and development.

Strategic Goals

- Develop FLC members to be impactful leaders in technology transfer.
- Enable effective outreach to industry and other technology integrators and partners by laboratory Offices of Research and Technology Applications.
- Inform and guide national policy initiatives regarding federal laboratory technology transfer, leveraging the vast experience and expertise resident in laboratory Offices of Research and Technology Applications.
- Promote the economic and societal value of federal laboratory technology transfer.

FLC Legal Issues Committee Activities

The FLC's Legal Issues Committee provides a forum for the discussion of legal concerns to support the Strategic Plan and the needs of Consortium members in the conduct of effective T2 programs, including information management fiscal issues, freedom of information, intellectual property, cooperative research, and standards of conduct. A major function is to review both existing and new T2 statutes, legislation and concerns, and disseminate discussion papers as required to the Executive Board and Consortium members; and to disseminate information and rulings to the Executive Board and Consortium members regarding federal intellectual property law.

FY14 Actions

- Advised the E&T Committee on the Technology Transfer Desk Reference.
- Assembled CRADA samples in support of an FLC CRADA working group.
- Provided the Congressional Research Service with information about the mechanics of money flow in governmental patent licensing.

2015 and Future Legal Issues Committee Plans

In future fiscal years, the FLC Legal Issues Committee would like to partner with the Department of Commerce and other government entities to provide strategic input and commentary on relevant laws and regulations (35 U.S. Code Sec. 206 and 37 CFR Part 401) in accordance with the America Invents Act (AIA). We will continue to provide assistance and guidance to government agencies concerning the legal aspects of technology transfer.

2014 Financial Statement

Funding for the FLC

By statute (15 USC §3710(e)(6)), the FLC receives its funding as a stated percentage of the intramural research and development budget of each federal agency for the fiscal year. These funds are transferred to the National Institute of Standards and Technology (NIST) at the beginning of each fiscal year and then transferred by NIST to the FLC to conduct its activities.

Below is a summary schedule of FLC revenues and disbursements as reported on the NIST ledgers, as well as a summary of agency contributions in FY14.

Schedule of Revenues and Disbursements

	2013	2014
Revenues	$3,032,961	$2,844,232
Disbursements*		
Contract Support	$1,292,789	$1,142,717
NIST Administrative Charges	$192,644	$249,989
Committee/Operations	$1,361,153	$821,252
Total Disbursements	**$2,846,586**	**$2,213,958**

Agency Contributions to the FLC for Fiscal Year 2014

Agency	Amount Paid
Department of Agriculture	$118,928
Department of Commerce	$56,008
Department of Defense	$1,218,338
Department of Energy	$539,000
Department of Health and Human Services	$521,414
Department of Homeland Security	$31,640
Department of Interior	$52,632
Department of Transportation	$28,840
Department of Veterans Affairs	$47,416
National Aeronautics and Space Administration	$230,016
Total	**$2,844,232**

* Disbursements are made across fiscal years.

Organized to Facilitate Technology Transfer

This section provides a breakdown of the FLC organization, and the roles and functions of its members. FLC membership is comprised of over 300 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 in 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 within their agency's jurisdiction, assist and advise Consortium leadership about maintaining relevance to changing agency missions/priorities, and support the accomplishment of the FLC's mandates.

LRs are federal laboratory staff members appointed by each FLC member laboratory who serve as the primary link between the FLC and their laboratory. They represent their laboratory's technology transfer mission 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 six 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 and activities 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 RCs, 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 DC Liaison. The DC Liaison provides the Executive Board with information regarding T2 legislation, policy, and procedures.

Much of the Consortium's work is planned and carried out by the following standing committees and their chairs. The chairs of the standing committees are selected and appointed by the Executive Board and present their committees' activities to the Executive Board:

- Awards Committee
- Communications Committee
- Education and Training (E&T) Committee
- Legal Issues Committee
- Planning and Policy (P&P) Committee
- Program Committee
- State and Local Government (S&LG) Committee
- Laboratory and Business Systems (LaBS) Committee

Through all parties involved, the FLC works together to fulfill its congressional mandates and facilitate the transfer of federal technologies.

FLC Executive Board (effective October 1, 2015)

CHAIR
Paul Zielinski
National Institute of Standards and Technology

VICE-CHAIR, PLANNING & POLICY COMMITTEE CHAIR
Dr. Mark Reeves
Oak Ridge National Laboratory

FINANCIAL OFFICER
Dr. Theresa Baus
Naval Undersea Warfare Center Division Newport

RECORDING SECRETARY
Marianne Lynch, J.D.
Department of Energy

HOST AGENCY REPRESENTATIVE
Dr. Courtney Silverthorn
National Institute of Standards and Technology

FAR WEST REGIONAL COORDINATOR
Brian Suh
Space and Naval Warfare (SPAWAR) Systems Center Pacific

MID-ATLANTIC REGIONAL COORDINATOR
Dr. Robert Griesbach
USDA-Agricultural Research Service

MID-CONTINENT REGIONAL COORDINATOR
Jack James
NASA Johnson Space Center

MIDWEST REGIONAL COORDINATOR
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Indiana Office of Defense Development

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Valerie Larkin
Naval Undersea Warfare Center Division Newport

SOUTHEAST REGIONAL COORDINATOR
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FLC Organization

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Naval Undersea Warfare Center - Division Newport

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President, Athena Strategies

Gary Wang
Director, Intelligence Systems and Architectures Directorate, Office of the Deputy Under Secretary of Defense for Intelligence Strategy, Programs and Resources

Joseph "Jim" Zarzycki, P.E.
Former Director, Edgewood Chemical Biological Center

The FLC is working to directly answer the calls of the Lab-to-Market and Cross-Agency Prioritization Goals by delivering advanced tools and services for our laboratory members and the end users. We are excited about where we are headed in FY15 and beyond.

– **Paul Zielinski,** FLC Chair

3D PRINTED SHELBY COBRA

The Department of Energy Manufacturing Demonstration Facility at Oak Ridge National Laboratory printed the 3D Shelby Cobra using the BAAM (Big Area Additive Manufacturing), on display at DOE.

Prepared by the FLC Management Support Office in conjunction with FLC Chair Paul Zielinski.