Parsing public policy for bioparks and innovation

SPECIAL REPORT ■ AURP’s “Report from Washington” explores what Congress is doing – and should be – regarding the federal government’s role in keeping America competitive

By Murray W. Wolf

Editor’s note: What affects bioscience ultimately affects bio real estate. That’s why in this, our first report from the AURP BioParks 2010 conference in Chicago, we provide highlights from the annual “Report from Washington,” which discussed how federal policy is affecting innovation and research parks.

Ironically, a photo of a British road sign was the first image flashed on the screen during a recent presentation about how U.S. government policies affect innovation and university research parks. Emblazoned on the sign was a puzzling – at least to Americans – warning: “Changed priorities ahead.”

Of course, the actual sign has something to do with which motorist has the right of way on a narrow English road. But it was intended to be a humorous metaphor for recent changes in philosophy regarding federal government’s role in innovation. The Obama administration and the Democratically controlled Congress are pursuing some different policies than their predecessors when it comes to innovation – “changed priorities” that could have a major impact on the development and financing of university research parks.

The presentation was the annual “Report from Washington” during the recent Association of University Research Parks (AURP) BioParks 2010 conference in Chicago. The first presenter was Brian Darmody, Associate VP of research and economic development for the University of Maryland, and AURP president.

The session also included presentations from:
■ Dr. Ashley J. Stevens, president of the Association of University Technology Managers (AUTM), special assistant to the VP for research technology and development, and senior research associate, ITEC Boston University School of Management; and
■ Dr. Anthony M. Boccanfuso, executive director, University-Industry Demonstration Partnership.

The Power of Place 2.0

There is reason to be concerned that the United States is losing its edge when it comes to innovation, Mr. Darmody said. America used to have the world’s largest research parks, the most efficient university tech commercialization system and the highest number per capita of technology start-ups, and was the leader in international research and development (R&D) investment.

But China, the United Kingdom, Israel and 17 other countries, respectively, have eclipsed the United States in those categories, he said.

How can public policy help the United States regain its edge? Mr. Darmody kicked off the report from Washington by recapping a recent AURP white paper outlining 10 recommendations for doing just that. AURP is a Tucson, Ariz.-based professional association of university related research and science parks that “promotes and supports the development of university research parks worldwide.”

The new report was a follow up to AURP’s October 2008 white paper, “The Power of Place: A National Strategy for Building America’s Communities of Innovation.” The original report asserted that “the United States is losing ground competitively” and determined that it was critical to provide “Communities of Innovation” – large research centers.

The initial report included 13 specific public policy recommendations intended to help the nation to “enhance collaboration, encourage (Continued on next page)
new models for research and attract global talent to our Communities of Innovation."

(For more on the original “Power of Place” report, please see “Is America doing enough to foster innovation?” in the March/April 2009 edition of Bioscience Real Estate Insights™.)

Mr. Darmody summarized AURP’s follow-up report, “The Power of Place 2.0: The Power of Innovation,” which was released in February. That report included these 10 policy recommendations:

1. Support research park infrastructure and the development of Communities of Innovation

Senate 583, a bill sponsored by Sen. Mark Pryor (D-Ark.), would be a step in that direction, Mr. Darmody said. Dubbed the Building a Stronger America Act, the proposed legislation would provide grants and loan guarantees for the development and construction of science parks to promote the clustering of innovation through high technology activities.

Mr. Darmody represented AURP in testifying in support of the bill – along with Dr. Charles W. Wessner, director of the Program on Technology, Innovation and Entrepreneurship for the National Research Council, among others – during a December hearing by the Senate Committee on Commerce, Science and Transportation.

The committee recommended that the bill be considered by the Senate as a whole, although no action had yet been taken on the bill when this edition of BREI™ went to press. Mr. Darmody told the BioParks audience that supporters were hopeful that the bill might be attached to the authorization for America Competes Act or perhaps a U.S. Economic Development Administration (EDA) initiative.

A similar bill was introduced in the U.S. House by Rep. Gabrielle Giffords (D-Ariz.). House of Representatives 4413, the Science Parks Research and Innovative New Technologies Act, has been referred to the House Committee on Science and technology.

“We’re hopeful, cautiously optimistic, we’re going to get some sort of federal legislation – I believe it will actually be the first time that ‘research park’ is actually named in federal legislation – to help improve development and support for additional infrastructure at our research parks,” Mr. Darmody said.

2. Improve university technology transfer by reforming the Office of Management and Budget (OMB) federal grant and contract funding model to encourage commercialization efforts by principal investigators and support “cash for commercialization”

AURP is urging the reform on the funding restrictions that are currently a part of those policies.

3. Support proof-of-concept funding

Proof-of-concept refers to the development and validation of promising technologies. The National Science Foundation (NSF) Fiscal Year 2011 budget has a pilot program to develop proof-of-concept funding to support follow-on efforts to commercialize university-owned technology. AURP supports that program.

4. Improve technology commercialization from federal laboratories by creating a Congressionally chartered technology intermediary organization

Federal laboratories spend about $25 billion on research, yet the return on that investment from commercializing their discoveries has been limited due to various regulations. AURP would like to see an entity that would more easily facilitate the transfer of technology to the private sector.

5. Connect federal researchers with private companies

AURP would like to see a new program to better facilitate this collaboration.

6. Create more private sector involvement near federal lab and regional research clusters

AURP recommends the expansion of Enhanced Use Lease (EUL) authority, which allows leasing of federal land and equipment to all federal agencies, not just Department of Defense agencies. The association also recommends an Executive Order be issued to encourage federal leasing of research assets near existing innovation assets, such as universities, research parks, and technology incubators to create innovation clusters.

7. Expand the corporate R&D tax credit

AURP supports the expansion of the corporate R&D tax credit, citing a report that increasing the credit to 20
percent from 14 percent would create 162,000 jobs in the near term, increase the Gross Domestic Product (GDP) by $90 billion, result in 3,850 new U.S. patents and would generate $17 billion in new tax revenues.

“But, clearly, based on international benchmarks, we are losing our ground there,” Mr. Darmody said.

8. Reform export controls

AURP’s position is that some export controls are overly strict, creating barriers to developing research relationships with other countries.

9. Eliminate the link to university intellectual property licensing in “private use” restrictions in university facilities

AURP wants Congress to eliminate U.S. Internal Revenue Service (IRS) tests related to intellectual property licensing by universities to corporate research in facilities funded by tax-exempt bonds. In other words, universities are limited in how they work with corporations because they might lose tax-exempt status.

“Why is the IRS interested in the terms of intellectual properties licensing?” Mr. Darmody asked.

10. Encourage entrepreneurship as a national goal, and include entrepreneurship in STEM initiatives

“Entrepreneurship – creating new companies out of technology – is really how we’re going to innovate our way out of our economic doldrums,” Mr. Darmody said.

AURP says the concept of entrepreneurship should be embedded in all of our science, technology, engineering and math (STEM) activities and policies. The new paradigm should be ESTEEM (encouraging science, technology, engineering, entrepreneurship and math).

Other policy matters

After completing the discussion of “The Power of Place 2.0,” Mr. Darmody touched on the status of a few additional recent policy developments.

■ On March 5, the National Institutes of Health (NIH) announced a new program called the SHIFT Award: Small Businesses Helping Investigators to Fuel the Translation of Scientific Discoveries. The goals of the program are to foster research and to commercialize research discoveries.

■ When the Patient Protection and Affordable Care Act – more commonly known as healthcare reform – was signed into law March 23, included a provision introduced by Sen. Arlen Specter (D-Pa.) that establishes the Cures Acceleration Network (CAN). CAN is intended to support research for high-priority therapeutics, biologics or medical devices that have not attracted private sector funding. The program, also administered by NIH, calls for grants of up to $15 million.

■ On March 25, the White House Office of Science and Technology Policy issued a Request for Information relating to commercialization of university research – basically seeking ideas for how to improve technology commercialization. The comment period ended May 26.

■ On April 14, the Obama Administration has announced a multi-agency funding opportunity to support an Energy Regional Innovation Cluster (E-RIC). The pilot initiative is intended to spur regional economic growth while developing innovative energy efficient building technologies, designs and systems. Seven federal agencies released a combined E-RIC Funding Opportunity Announcement (FOA) making up to $129.7 million available over five years to support the cluster.

In conclusion, Mr. Darmody noted that AURP is increasingly teaming with other, like-minded organizations to try to increase their collective clout in Washington.

Some of those other organizations include the National Business Incubation Association (NBIA), the National Association of Seed and Venture Funds (NASVF), AUTM, the Council of Development Finance Agencies (CDFA) and the National Angel Capital Organization (NACO).

As time goes Bayh

Next up during the “Report from Washington” presentation was Dr. Stevens of AUTM, a group which supports and advances academic technology transfer globally.

Like Mr. Darmody, he opened his presentation with a bit of levity.

“The goods news is that the Obama administration is keenly interested in enhancing university research commercialization,” he said. “The bad news is that the Obama administration is keenly interested in enhancing university research commercialization.”

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Dr. Stephens noted that the University and Small Business Patent Procedures Act, commonly known as the Bayh-Dole Act, has been a cornerstone of successful technology transfer in the United States for three decades. Adopted in 1980, Bayh-Dole gave U.S. universities, small businesses and non-profits intellectual property control of their inventions and other intellectual property arising from federal-government funded research.

Part of the “genius” of the Bayh Dole Act, he said, was that is made no explicit provision for funding; tech transfer costs were to be included in the administrative component of each institution’s indirect cost base. As a result, Bayh-Dole didn’t require periodic Congressional reauthorization, avoiding “opportunities for meddling.” That has resulted in “30 years of stability” for Bayh Dole.

In practice, however, universities have been forced to provide their own funding for technology transfer. Although a handful of universities have reaped billions of dollars in income from technology licensing, tech transfer has been a net cost for 84 percent of academic institutions, he said. That has limited tech transfer activities.

Like AURP, AUTM supports grants to carry out proof-of-concept work to and prepare technologies for commercialization. This would help to bridge the gap between federally funded research and private investment for commercialization – the so-called “Valley of Death.”

“Innovation is really cheap in the early stages. The leverage is great,” Dr. Stevens said.

Funding is another issue. Most academic technologies cannot attract institutional funding when they are first disclosed. During the past five years, the most common source of initial funding for academic startups is individuals – friends, family members and angel investors, not institutional sources such as venture capital, SBIR and STTR grants or corporate partners, he said.

“The biggest single source of financing – most frequent, not amount, most frequent – for university start-ups is friends and family. As several of my professors have told me this does make for some very tense Thanksgiving day” gatherings,” Dr. Stevens said.

AUTM also supports the creation of R&D tax credits for individuals who invest in university spin-out companies, he said. That would provide an incentive for even more investment, which would increase the rate at which ventures are spun out of academic institutions, he said.

A political hot button

UIDP is an organization that seeks to enhance the value of collaborative partnerships between university and industry in the United States, providing a forum for university and industry representatives to meet and discuss contracting and intellectual property policy, publication and technology transfer preferences, and other issues.

Dr. Boccanfuso of UIDP said the potential for conflicts of interest between universities and industry has become a political hot button.

“Conflict of interest, I think, is something that everyone in this room should be concerned about,” he said.

But he said that patients and the public benefit when physicians and researchers collaborate with pharmaceutical, medical device and biotech companies to develop products that benefit individual and public health. He warned that too many restrictions on that collaboration could hinder that process.

Universities benefit from strategic university-industry collaborations in many ways, he said. Those include:

- faculty/researcher retention and recruitment, student recruitment and job placement, making communities more attractive for industry, patient benefits (access to experimental drugs, devices, therapies via clinical trials and latest approved treatments), enhanced reputation and increased philanthropy,

Benefits to companies include: workforce development, access to expertise and world class talent, access to a large pool of potential subjects, and access to facilities and specialized equipment.

Recent trends have included the increasing use of government incentives, Dr. Boccanfuso noted.

“Why did Scripps go to Florida? There are a lot of good things happening in Florida. But I don’t think it was Florida Atlantic University that was the key driver. I think it was a lot of incentives,” he said.

States and countries have had an increasing role in university based economic development, he said, with a focus on job creation. That has resulted in increased state interest and investment in university based economic development, as well as an increase in targeted venture philanthropy – funds from groups like the Cystic Fibrosis Foundation and the Bill & Melinda Gates Foundation.

Industry funding to universities has been minimal in the past, which presents an opportunity, he said. UIDP also supports government grant mechanisms to facilitate collaborations.

Although there are many complex issues surrounding university-industry collaborations, Dr. Boccanfuso said that the potential benefits outweigh the costs, and those obstacles can be overcome.