The Agricultural Technology Innovation Partnership (ATIP) Program of ARS:

A Plain Language Overview of Concept, Strategy, and Status

Prepared by the Office of Technology Transfer

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What is ATIP and how is membership in ATIP formalized?

The USDA's Agricultural Research Service (ARS) has established the "Agricultural Technology Innovation Partnership" program (ATIP) with a few select local / state / regional economic development organizations to create and enhance opportunities for private sector partnerships. This is accomplished through licensing of ARS technologies, and/or through establishing Cooperative Research and Development Agreements (CRADA) with companies that can successfully commercialize ARS innovations. The overarching goal of ATIP is to increase the likelihood that ARS research outcomes are adopted by private sector firms and to increase impact and recognition of ARS research programs. Current ARS licensing and CRADA polices and processes are not affected by this program.

Membership in ATIP is formalized with a "Partnership Intermediary Agreement" executed by the Office of Technology Transfer on behalf of ARS. "Partnership Intermediary Agreements" (PIAs) are specifically authorized by federal statute as a technology transfer instrument. Currently, only the Department of Defense and ARS are utilizing PIAs in an orchestrated manner, but several other agencies are now in the process of developing them (NIH, NASA). In ARS, the PIA document is a "mutual interest" cooperative agreement. ARS has broad flexibility in selecting the intermediaries best able to meet the needs of the agency by providing complementary services both to ARS and to its industry partners.

What is the ARS strategy for building ATIP membership and directing activities?

ATIP is envisioned as providing an efficient network to ARS with each member serving as a conduit to a greater number of local (e.g., county, city), state, or regional organizations, including venture capitalists and angel investors. Because of the ARS need for regional access to private sector companies and resources, and the 8-Area structure of ARS, ATIP is likely to have optimal effectiveness with 8 economic development-based **"ATIP Partners"**, strategically distributed across the country with each anchored in an Area of ARS. An additional Partner representing a national perspective on entrepreneurship and innovation-based business investment would complete the 9 ATIP Partners ("portals"). This would optimize efficiency of information exchange and Partner stewardship. ARS may add other economic development entities at its discretion as **"ATIP Associate"** members that are linked principally to one of the 9 ATIP Partners. Licensees or CRADA partnerships (specific

businesses or research relationships) that are facilitated by the PIAs become **"ATIP affiliates"** in the program.

ARS envisions utilizing the ATIP Partners (a) to co-sponsor events whereby ARS technologies and research capabilities will be showcased, thereby increasing the opportunities for technology transfer partnerships; (b) to provide technology-readiness assessments and business plan development of select existing technologies in ARS (protected intellectual property) to create "Partnering Opportunity" documents for distribution and action among ATIP members; and (c) to link to entrepreneur schools (colleges and universities) and small business development centers to facilitate partnerships with ARS. All Partners are expected to have direct access -- or members with direct access -- to fiscal resources that can support the research partnerships of businesses with ARS.

Who are the current and pending ATIP members?

As of January, 2010, the ARS has established PIA's with (1) the Maryland Technology Development Corporation (**TEDCO**, September 2007), (2) the Mississippi Technology Alliance (**MTA**, December 2008), (3) the Wisconsin Security Research Consortium (**WSRC/WTC**; part of Wisconsin Tech Council, September 2009), and (4) the National Association of Seed and Venture Funds (**NASVF**, October 2009, serving as the one Partner not anchored by an Area of ARS). A PIA is pending with the Pennsylvania Department of Community and Economic Development, encompassing the Ben Franklin Technology Partners (**BFTP**) and others in Pennsylvania and adjacent regions.

What examples of ATIP member activities and successes can advise / guide prospective new members?

Within the first 18 months with **TEDCO** as the founding ATIP Partner, 7 ATIP Affiliates were established; 5 with some funds provided by TEDCO. One of these affiliates, a Maryland start-up business (CrispTek), licensed an ARS technology developed at the Southern Regional Research Center (SRRC, New Orleans), received funding from TEDCO, made its first sale within 8 months, and has established a CRADA with SRRC scientists. *This process was initiated through an entrepreneurship program affiliated with TEDCO, and demonstrated the value these complementary business assets can bring in accelerating adoption of research outcomes by companies vetted by ATIP Partners.*

On October 30, 2008, **TEDCO** organized and sponsored the "Growing Green" showcase in Baltimore, MD, wherein various ARS technologies and research capabilities were highlighted and promoted. One of the outcomes of this Showcase was the creation of new collaborative research teams with an industry partner involving scientists in different National Programs, as well as in different ARS Areas. *This concept of "themed" showcases, highlighting both technologies and capabilities, will become the new standard for all future showcase events facilitated by ATIP Partners.*

Within the first few months of having joining ATIP, the **MTA** identified 6 projects to promote to Mississippi businesses that are expected to involve 8 ARS scientists. At least 2 specific technology-specific meetings have occurred. Following a joint meeting with **TEDCO** (Feb. 3, 2009), the two Partners proposed a joint review of the ARS patent portfolio which is expected to result in: (a) the identification of various technologies ready for immediate commercialization (i.e., license) or that would have greater

opportunity for success with further development with businesses (e.g., CRADA), (b) the preparation of a marketing analysis and plan for each of these technologies, and (c) shopping the plan to various entities interested in developing businesses in their geographic regions. In response, ARS has developed a specific detailed portfolio listing for distribution to ATIP members (part 1 released Nov. 23, 2009 at a specially-convened meeting of ATIP members). *ARS has identified this as a model activity, and requests all Partners to engage this process.*

November 19, 2009, **MTA** co-hosted a Conference on High Technology that focused on GIS and geospatial research. The conference included 6 ARS scientists selected from across the agency to represent research capabilities in this subject area; potential partnerships with attending Mississippi companies are in review.

Although joining ATIP as recently as September 16, 2009, the Wisconsin Tech Council and the Wisconsin Security Research Consortium (**WTC / WSRC**) has already initiated several actions, including (a) introducing their network to ARS by adding a special session to their Early Stage Symposium (November 10-12, 2009) on *"Intellectual seeds: How your company can obtain federal ag research"*; (b) facilitating discussions with 4 potential technology and research partners; and (c) establishing a working relationship with Dr. Michael Tippins of the University of Wisconsin, Oshkosh, to develop a pilot program to provide students with real life entrepreneurial experience. Dr. Tippins introduced a list of ARS patented technologies to students in his Cap Stone consulting course to select and develop business plans based on these technologies. *Consistent with the TEDCO example above, ARS has recognized the value of this approach and requests all Partners to find and engage such complementary business assets in their respective regions.*

Since joining ATIP October 16, 2009, **NASVF** has worked with ATIP Partners and OTT to propose that the Secretary of Agriculture establish a USDA Innovation Fund, part of which would be managed by the ATIP network to fast-track ARS partnerships toward adoption of USDA technologies. Submitted in mid-December 2009, the proposal is pending, and is contingent on both authority and availability of funds from Secretary Vilsack.

Current ATIP members are already collaborating with each other to find ways to help ARS increase its impact. In their view, having a select set ATIP members with proven track records, will provide a unified and nation-wide commodity-independent support base for ARS research to ensure that the innovation pipeline arising from ARS scientists is robust.

Based on these experiences, what traits does ARS seek in prospective PIA partners? (Note, these are desirable, but not "required")

Ability to provide complementary assets to ARS Office of Technology Transfer, such as:

- guiding local / regional business with research needs to the appropriate ARS scientist across ARS (CRADA opportunities);

- triaging business plans of private sector firms to identify well-qualified companies (e.g., likely to succeed) as prospective partners for licensing technologies (market "push" approach) or developing research agreements with ARS (market "pull" approach);
- providing analysis of the factors (e.g., financial, technical, manufacturing, marketing) that affect the commercialization of specific ARS-prioritized technologies and developing / implementing plan to obtain commercial partners. These "technology opportunities" may be developed by the intermediary or by 3rd party sources (business schools, entrepreneur programs, angel investors, etc.) facilitated by the intermediary; and
- coordinating "Technology Showcase" events with ARS and other ATIP members to enhance awareness of ARS and to facilitate licensing or research partnerships (CRADA) with private sector companies.

Provide complementary assets needed by private sector to succeed in commercializing ARS inventions. Such services may include:

- assisting in accessing federal and state public funds, and private funds by providing local access to angel investors, seed or venture funds;
- providing business plan assistance through network of enterepreneurship programs or other local experienced business executives that can advise start-ups;
- assisting in preparation of funding proposals and other resource opportunities such as SBIR, STTR, and special initiatives;
- managing their own internal seed/venture funds to support CRADA and license partners of ARS;
- identifying services and expertise needed to resolve manufacturing capacity issues, such as scale-up, formulation, facility design, supply chains, etc.