# VALLEY INNOVATION ALLIANCE (VIA)
# Implementation Plan
# WIRED Grant Number: WR-15534-06-60

## 1. EXECUTIVE SUMMARY

The Tennessee Valley region is considered one of the economic powerhouses of the Southeastern United States.  The Huntsville community is the primary economic hub of the region with virtually zero unemployment, strong job growth and high income levels.  The area has the highest concentration of engineers and rocket scientists in the world due to the location of US Army's Redstone Arsenal, NASA's Marshall Space Flight Center and Cummings Research Park, the nation's second largest research park.  An annual Department of Defense budget of $20 billion supports a strong procurement-based economy with an emphasis on science and technology.  In addition, the regional manufacturing base is a diverse mix of traditional and technology manufacturers comprising approximately 20 percent of the overall local area employment.

Recently touted by Alabama Governor Bob Riley as *"The Economic Rock Star of the State" (The Huntsville Times, 6/22/06),* Huntsville has undergone major economic transformation in the last 50 years.  When Dr. Werner von Braun and his team of rocket scientists moved to Huntsville in 1950, the population was 20,000.  By the time of the moon landing in 1969, Huntsville's population had grown to 300,000 and a commuter economy was in place that supplied high-paying technical jobs to workers within a 100-mile radius.

Successful growth continued into the 1980s and 1990s with commercial spin-offs of government technology and research.  During this same timeframe, off-shoring of manufacturing jobs – especially in the textiles industry – resulted in high unemployment rates in outlying counties of the region.  By the late 1990s, the biotech industry appeared in the regional economy for the first time.  Research Genetics served as the source of a key molecular component used in mapping the human genome and has spun off more than a dozen startup companies including several large successes.  In 2005, the founders of four very successful Huntsville-based companies came together to found the Hudson Alpha Institute for Biotechnology (HAIB), a $130 million investment combining nonprofit research efforts and 8 to 10 biotechnology companies.

Still, the region is not without its economic challenges.  Almost one-fourth of the Huntsville metropolitan workforce is drawn from outside the Madison County limits and the commuter shed encompasses a corridor of some 23 counties between Birmingham, Alabama and Nashville, Tennessee.  The successes of Huntsville have not extended to the smaller towns across the area.  For example, Spruce Pine (Franklin County), Alabama, faces a shortage of jobs paying more than minimum wage and a lack of employment training resources for local citizens. This economic disparity is evident in the average annual pay of counties in the region:  in 2005, the median family income in Huntsville/Madison County was $55,832 while rural Franklin County's family income was $34,274.  Unemployment in nearby Lawrence County, Tennessee is greater than seven percent.  The economic mantle of prosperity must be expanded across the region.

Other regional challenges are the impact of the 2005 Base Realignment and Closure (BRAC) Act that will add 4,700 direct and potentially 5,000 to 15,000 indirect jobs to the region by 2012 and the large number (50-80 percent) of current employees of the Army at Redstone Arsenal eligible to retire by 2012. The BRAC-mandated expansion of Redstone Arsenal will also provide opportunities for expanded procurement and innovation such as those experienced previously in the region. A few areas that present clear opportunities for regional economic development include alternative fuels initiatives by Oak Ridge National Laboratory, simulation and modeling in defense and aerospace applied to biomedical world by HAIB and Vanderbilt University, and the need for new technologies in aerospace, missile defense and aviation where molecular machines, biosensors and biomaterials offer significant benefits. In addition, strong growth projections in the areas of processed food, pharmaceuticals, aerospace vehicles, defense, communications equipment and transportation/logistics industries will add increased workforce needs to a region with very low unemployment. The Madison County area is already experiencing related growth as defense contractors begin relocating. In 2006, the county's three school systems added 600 students *(Source: UAH office of Economic Development).*

Our original proposal submitted to the U.S. Department of Labor's Employment and Training Administration focused initially on a smaller region surrounding the Huntsville community. Given the past year of reflection and further discussion among a variety of potential stakeholders, the expanded geography as outlined above connects several additional assets and responds to the labor-shed, commuter patterns that make for a cross-border strategy. Therefore, the creation of a Valley Innovation Alliance (VIA) formalizes collaboration, partnership, efficient use of resources, and engagement of a bi-state leadership team – acting regardless of political boundaries that might limit the successful training and societal benefits from a WIRED engagement. WIRED is a three-year process that will seek to strengthen assets and individuals in ways that have not previously been considered, and provides a platform on which institutions and organizations can adopt transformative, unique, and innovative approaches to resolving long-plaguing challenges as well as anticipate and respond to emerging opportunities.

The key question for the Valley Innovation Alliance (VIA) is clear: **How does the key economic hub of the region leverage the existing assets and knowledge base of a prosperous, procurement-based economy to spur the growth of emerging industries of biotechnology and nanotechnology and foster innovation and technology transfer in the existing industries of engineering, information technology and advanced manufacturing while sharing the prosperity across the 23 counties in Northern Alabama and Southern Central Tennessee?**

This question led to the establishment of the three major goals addressed in the VIA Implementation Plan: *Regional Collaboration and Partnership; Entrepreneurism/Technology Transformation; and Cultivating Cluster-based STEM competencies.*

By focusing on these key goals, the plan drives regional economic competitiveness across the Tennessee Valley propelling the region to the forefront of scientific discovery and the conversion of those discoveries into products and services that improve life around the globe. Establishing

global partnerships for the region and recruiting talent globally is critical to maintaining our competitiveness in innovation. Technology Transformation is defined as transforming existing high-technology industries through education and technical assistance so that they may embrace and advance emerging technologies. The Huntsville economy thrives on this type of entrepreneurial climate.

The following Implementation Plan supports the development and capitalization of highly entrepreneurial and innovative industries that are poised for growth and are critical to the region's future. Because they are also in high demand in many parts of the country, it is critical that the Tennessee Valley focus on developing its regional workforce from K-20, marketing these high-demand careers to our future workforce, and encouraging the regional growth of these industries through technology transformation and entrepreneurism. The VIA transformation and goals, once linked and leveraged, will create a pipeline of new technologies, new firm formation and the qualified workforce needed to meet market and industry demand. For the first time, the pipeline will cross a number of sectors, disciplines, and skills through improved collaboration and performance among key stakeholders and their respective organizations and entities.

There are other efforts across the country to educate students, parents and the public about career opportunities in the high-growth areas targeted by our region. An excellent example is the "Career Voyages" portal (http://www.careervoyages.gov) developed by the Departments of Labor and Education. This site contains information about career pathways in the automotive, aerospace, energy, biotechnology and nanotechnology fields and serves as an excellent resource for our talent development efforts. Additional websites and resources are being identified for each target area. VIA will work towards collaborative partnerships with these groups to reduce duplication of effort and maximize both our resources and the impact of our joint efforts for career development and awareness.

**Successful regional growth in our target industries is heavily dependent upon access to talent – concentrations of skilled and experienced workers and the availability of specialized education and workforce training that produces and upgrades the skills of these workers. The successful transformation of our region requires an integrated approach to developing the skills required for our industry clusters.** Focus areas identified in the VIA Implementation Plan share a need for workforce education in science, technology, engineering and mathematics; thus, **cultivating the** STEM activities **based around competencies required by these clusters** are foundational to regional success and prosperity. The merging and interconnectivity of bio/nano/it/engineering/advanced manufacturing and the technology transfer that is beginning to occur has the potential for creating new, undeveloped technologies. The Tennessee Valley region has the natural, scientific, technological and governmental resources and entrepreneurial culture to spur the research, the innovation and tech transfer that will make this economic transformation a reality. The VIA Leadership Team recognizes the WIRED Initiative as a transformational process that will move an area already thriving through its heritage of space exploration and military procurement base to a legacy of innovation and talent development.

# 2. <u>Goals and Strategies of the TN Valley region</u>

Three over-arching goals will be implemented primarily through funding of proposals solicited and evaluated by the Action Committee (see leadership structure) based on the guiding principles (see below) and specific scoring rubrics developed for each goal. Specific strategies for each goal are listed below, along with examples of projects submitted by our founding partners. Additional partners and projects will be identified through an opportunity 'investment' fund of competitions that causes new ideas to be sparked from among existing stakeholders and as the regional network grows.

1. **Regional Collaboration and Partnership** – Connect regions, technologies and industries to build a regional network that maximizes regional assets to achieve and sustain an economic advantage. Connecting with regions internationally by establishing global partnerships that complement our efforts will build our innovation capacity. We are always on the lookout for collaboration opportunities and bringing new partners into the VIA initiative as new opportunities expand the depth and breadth of collaborations and partnerships. The region will also strive to leverage the efforts of other federal agencies that have joined DOL under the WIRED umbrella.

2. **Cultivating cluster-based STEM competencies** – Increase the size and quality of the North Alabama/South Tennessee workforce necessary to support and grow the targeted industry sectors of Biotechnology/Nanotechnology/Information Technology, Engineering, and Advanced Manufacturing by developing an educational pipeline that promotes careers in theses industries, prepares students for successful careers at all levels, and enables lifelong learning. Identify areas of innovation where talent may need to be recruited and establish a system to facilitate these recruitment efforts. Development of Science, Technology, Engineering and Mathematics (STEM) skills will be emphasized at all educational levels. Our efforts will build on leveraged models such as the Hudson Alpha Institute for Biotechnology (HAIB) education programs, the Alabama Math Science Technology Initiative (AMSTI), the National Association of Manufacturing "Dream It, Do It" campaign, and Junior Achievement for sustainability of the projects and region-wide collaborations developed during the initial WIRED period. The public workforce system will be a strong partner with the educational system, and employers will be at the table alongside educators, workforce development and economic development partners because each addresses different elements of talent development. VIA recognizes that a major part of talent development is matching the demand side with supply side and matching skill-sets with job opportunities.

3. **Entrepreneurism/Technology Transformation** – Create an entrepreneurial climate that encourages, supports, and finances business development and growth in our targeted industries working in partnership with such resources as Huntsville's Biztech High Tech Incubator, The Huntsville Angel Network, Shoals Business Incubator, and Southern Tennessee Business Incubators and NAITA. Facilitate the extension of existing business mentoring and angel investment activities to the entire region, based on the models existing at Huntsville's BizTech. Foster growth of existing Huntsville-based networking organizations, such as the Partnership for Biotech Research (PBR), to include members

from throughout the region.  Leverage the Manufacturing Extension Partnership (MEP) Pilot project to promote innovation and growth in existing ingrained industries by fostering partnerships that exploit bio and nanotechnologies and facilitate technology transfer in these areas.  A primary focus will be on "green" processes, biomaterials and renewable resources.  By tapping our wealth of knowledge from an engineering, research-based economy, we can apply it to a whole new set of opportunities – regionally, nationally, and internationally.  Assisting targeted industries in pursuing opportunities abroad will help companies be more competitive and innovative.

The Regional Leadership Team and Action Committee will identify and support programs and projects that create immediate leverage of WIRED resources, while also encouraging a long-term funding strategy from among federal and state public sector entities as well as corporate and philanthropic investments in the VIA WIRED initiatives. We do not view the $5 million from DOL-ETA as an end point but rather a jump-start to a larger value proposition for the long-term benefit.  For example, in the last 3 months, the Leadership Team has identified almost $1 million in matching funds from our partners to support VIA-specific activities.  This number will certainly increase as we move into the implementation phase of the project.

Through increased collaboration and partnership, the VIA WIRED region will continue to identify limitations, barriers, and most importantly undervalued opportunities for increasing job creation and wealth generation among the widest spectrum of our 23 county-base of demographics and populations. If we are to apply our existing competencies of know-what, know-how, and know-whom, the VIA region must find a mechanism and the means to conduct gap analysis and catalyze solutions that will more than likely require multiple organizations, institutions, and individuals in alignment. Such alignment – as noted in the Implementation Plan – will be encouraged and supported through specific contractual understanding among funded programs as well as the performance metrics tied to outcomes and results. The following strategies and activities demonstrate the VIA WIRED region's focus.

## 2.2 Related Strategies and Activities

**Goal 1.1: Develop a regional vision that maximizes regional assets to stimulate and sustain economic growth.**
**\*Denotes lead organization**

| Key Strategies | Activities | Partners | Timeframes & Milestones | Resources Needed | Desired Outcomes & Metrics |
|---|---|---|---|---|---|
| 1.1 Educate key stakeholders across the region through a comprehensive communications campaign | 1.1A Communicate project vision throughout community; Ensure Leadership Teams represent all partner groups; Utilize resources and services of the Alabama Development Office and the WIA Boards in AL and TN | (See list in Section 4.4) | Y 1-3 | Meeting support<br><br>Communications support<br><br>TA from DOL<br><br>Input and TA from partners | Increased Awareness in region<br><br>Identification of resources and initiatives |
| | 1.1B Facilitate communication within and among the individual partner groups through email blasts, quarterly newsletters and other appropriate communication venues, and a functional, useful website.<br>Conduct 1-day regional forums for individual partner groups: postsecondary, middle and high schools, businesses, agencies and associations, faith based and government groups | (See list in Section 4.4) | Y 1-3 | Meeting Support<br><br>Communications support | |

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| | (economic development offices, WIA, mayors, etc.) to discuss vision for project and detailed roles of partners | | | | |
| | **1.1C Employ, as needed, consultants for development of regional approach to workforce and economic development** | **Action Committee*** | **Y 1-3** | **Technical assistance funding from DOL (NO WIRED FUNDS REQUIRED)** | **Regional asset map and inventory of resources aligned with the BioEconomy (a road map of data, competitive intelligence, market scope, and specific economic opportunities for the WIRED BioEconomy strategy in VIA)**<br><br>**Cluster of Knowledge and Competency Model that identifies the skills and talent required to meet the objectives of the emerging technology sectors and products/services Asset Mapping Completed** |
| | **1.1D Collaborate to host an annual cross-border, gubernatorial and legislative VIA Briefing** | **Action Committee*** | **Y 1-3** | | **At least 1 annual Briefing Day of Innovation will be held each year** |

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| | Day of Innovation. | | | | and hosted by VIA. |
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**Goal 2: Develop a K-20 educational pipeline supported by a full skill-set of competencies that encourages and prepares students for careers and career changes at all levels in targeted industries.  *Denotes lead organization.**

| Key Strategies | Activities | Partners | Timeframes & Milestones | Resources Needed | Desired Outcomes & Metrics |
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| 2.1 Increase workforce pipeline available to meet the demands of target industries | 2.1A Create online career portal that promotes career opportunities in the targeted industries for high school students, entry level employees, incumbent workers, Veterans, GED completers and those considering moving to a job in the targeted industry. Catalog various career opportunities for targeted industries that includes skills required, training needed, pathways to careers, training provided, average wages and responsibilities | Huntsville/Madison County Chamber of Commerce*, HAIB, CCC, Junior Achievement | Identify Portal components 10/07 Seek bids for site development 10/07 Live site by 1/08 | WIRED funds: 2007 $15,000 HAIB leveraged funds: 2007 $10,000 | Live site 1/08 Number of careers profiled Average number monthly "hits" Feedback from user through survey mechanism Number of students who enter training/education programs in targeted industries – METRIC: 30 year 1; 40 year 2; 50 year 3 |
| | 2.1B Provide professional development opportunities for high | Leadership Team*, Executive Director, industry outreach and | Written materials, quarterly email blasts pointing counselors and | Center for Manufacturing Innovation (CMI)/Tech | Communications plan that actively promotes career opportunities for |

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| | school counselors and faculty to learn about careers in targeted industries. | education directors, institutions that provide the workforce skillset training in targeted regions, JA, school systems CMI camps for students, STEP | faculty to web portal from strategy 1.1A 1/08 Ongoing presentations to high schools in the region about career opportunities | Prep Technology Camp for High School Counselors and Teachers. (Note: This model is based on advanced manufacturing but could be replicated for other targeted industries. In 2006, this activity was funded by the CMI Grant and supported by the Tech Prep Grant. In 2007, this activity will be partially funded by BP).<br><br>Library of presentations available for use by partners<br><br>Printed materials outlining portal and contents | target industries and the importance of STEM skills for those careers Increased enrollment in skillset training programs in targeted industries. |
| | 2.1C Provide opportunities to inform the public, parents and students about career opportunities in the targeted industries for | Leadership Team*, Executive Director, industry outreach and education directors, | Ongoing presentations to target audiences to present the workforce pipeline for target | Library of presentations available for use by partners<br><br>Partner | Actively promote career opportunities for target industries Increased enrollment in |

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| | our region. | institutions that provide the workforce skillset training in targeted regions, JA, school systems, Chambers of Commerce | industries and career profiles Presentations developed and available 9/07 | training and time | skillset training programs in targeted industries. METRIC: Hold at least 1 community-wide event each year targeting parents and students. |
| | 2.1D Support a regional "Dream It, Do It" campaign | Action Committee* Advanced manufacturing companies, National Association of Manufacturers | Secure partner support to implement campaign | WIRED funds: $65,000 Partner funding of $50,000 + | Increased awareness and interest in advanced manufacturing careers More students enrolled in adv. Man. Training courses throughout the region |
| 2.2 Identify existing innovative K-12 STEM programs that support an understanding of or increase the relevant skill set for targeted industry areas | 2.2A Provide support for HAIB educational programs in biotechnology and genetics targeting appropriate life science curriculum points in TN and AL | HAIB*, AMSTI | *7th-8th grade modules:* developed 7/07 pilot testing completed by 1/08 ready for statewide use 4/08 incorporated across N. Alabama region 8/09; Pilot tested with 25 TN teachers 8/09 NOTE: WIRED | WIRED funds: Y1 $0 Y2 $0 Y3 $30,750 HAIB leveraged funds: Y1 $22,000 Y2 $32,000 Y3 $ 33,250 | New curriculum modules developed Number of teachers trained Number of students engaged in module use Metric: 7th grade module developed 2008; Metric: 90 teachers trained – 1300 students engaged in 2008; Metric: 180 teachers trained – |

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| | | | funding used for 8th grade TN students only; leveraged funding from HAIB will be used for 7th grade students | | 2600 students engaged by 2009 |
| | 2.2B Provide support for 9-12th grade Science in Motion genetics and biotech modules developed by HAIB for incorporation in science classes | HAIB*, ASIM | *SIM 9-12th grade modules:* Developed 9/07 Pilot testing completed by 1/08 Ready for statewide use by 5/08 Incorporated across region 8/09 Online skills library developed 5/08 | WIRED funds: Y1 $30,000 Y2 $48,000 Y3 $35,000 | New curriculum modules developed Number of teachers trained Number of students engaged in module use Number of schools participating Number of students who enter Biotechnology training programs Metric: 6 modules developed in 2008; Metric: 100 teachers trained in 2008; 2000 students engaged in 2008; Metric: 200 teachers trained in 2009 – 4000 students engaged. |
| | 2.2C Develop an online biotechnology skillset video series that reviews standard lab handling skills | HAIB* | Online skills library developed 5/08 | WIRED funds: Y1 $28,000 Y2 $ 0 Y3 $ 0 | Metric: Set of 10-15 instructional segments Number of schools using |

| | | | | HAIB leveraged funds:<br>Y1 $0<br>Y2 $0<br>Y3 $0 | videos for preview/review<br>Metric: 25 schools using videos<br>Number of hits/downloads on career website<br>Metric: 1000 hits/month |
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| | **2.2D Duplicate the Alabama APPLE AP Biology lab support program in southern TN** | **PBR*, Lincoln, Giles counties in TN** | **Equipment and reagents purchased by 9/07<br>Teachers trained by 1/08** | **WIRED funds:<br>Y1 $15,000<br>Y2 $ 5,000<br>Y3 $ 5,000<br><br>PBR leveraged funds:<br>Y1 $15,000 to establish AL APPLE<br>Y2 $0<br>Y3 $0** | **Number of TN high schools who utilize lab protocols<br>Metric: 2 high schools participating in APPLE Program in 2008** |
| | **2.2E Establish a Biotechnology Educator in Residence (BEIR) Program at HAIB for one high school teacher/year** | **HAIB*, Hsv City School Board, Madison City School Board, Madison County School Board (2007)<br>Eligibility will expand to other regions across N. Alabama in 2008** | **1ˢᵗ BEIR chosen 7/07<br>2ⁿᵈ BEIR chosen 6/08<br>3rd BEIR chosen 6/09** | **WIRED funds:<br>Y1 $0<br>Y2 $50,000<br>Y3 $50,000<br><br>HAIB leveraged funds:<br>Y1 $0<br>Y2 $20,000<br>Y3 $20,000** | **Number of applicants for program each year<br>Metric: 5 applicants in 2008<br>Types of educational and outreach programs participated in by BEIR<br>Metric: 5-10 in 2008<br>Biotechnology activities the BEIR completes upon returning to home school following** |

| | | | | | year in residence Metric: 5 professional development activities conducted by BEIR |
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| | **2.2F Provide additional support for Project Lead the Way** | **Action Committee*** | | | |
| | **2.2G Develop partnership with regional Junior Achievement to highlight target careers as part of JA programming** | **Chambers of commerce*** | | **WIRED funds: $50,000 (25,000 – Decatur; 25,000 – Huntsville)** | |
| | **2.2H Consolidate Calhoun Tech Prep Programs into one initiative and expand Tech prep Symposium** | **Calhoun CC*** | | **WIRED FUNDS: $10,000** **TP Leveraged Funds: $10,000** | **Number of articulation agreements in place to students with articulated credit.** |
| | **2.2I Expand Tech Prep linkages and articulation with regional high schools (Examples: Lincoln, Giles, Franklin County HSS (TN)).** | **Regional Chamber's Workforce Coalition* Education Taskforce of education and industry reps** | **Y 1-3** | | **Updated curriculum with industry focus for career tech programs** |
| | **2.2J Enhance the Early College Entrance Program (ECEP) and Dual Enrollment Programs in all area high schools to encourage greater high school graduation and** | **Calhoun CC*** | **Y 1-3** | | **Enrollment in ECEP and Dual Enrollment Programs will increase 10% each year.** |

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| | pursuit of postsecondary education. | | | | |
| | **2.2K Support the Engineering Academy Initiative for Alabama** | **Action Committee*** | **Y 1-3** | **Leveraged funds: $200,000 from University of Alabama System, Auburn University and Alabama Department of Education** | |
| **2.3 Support innovative STEM programs that increase the relevant skill set for targeted industry areas at the postsecondary level.** | **2.3A Develop and implement curriculum, laboratory and materials for Biotechnology Associate Degree Program at Calhoun Community College and provide scholarships for freshmen students.** | **Calhoun CC*** | **Y 1** | **WIRED funds: Y1 $175,425 Y2 $55,000 Y3 $30,000** **CCC funds: Y1 $50,000 Y2 $20,000 Y3 $20,000** | **At least 10 students will be enrolled in the Fall 2008 biotechnology associate degree program at Calhoun Community College.** |
| | **2.3B Set up bio/nanotech lab at Calhoun Community College and at one additional community college in the region.** | **Calhoun CC*** | **Y 1-3** | | **Associate Degree biotechnology curriculum established and lab equipped at Calhoun Community College.** |
| | **2.3C Develop 1+1 linkage program in Bio/Nano and or IT with at least three other regional community** | **Calhoun CC*** | **Y 2-3** | | **At least 4 articulation agreements will be developed between regional** |

| | | | | | partners in information technology. |
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| | 2.3D Develop articulation agreements in Bio/Nano/IT with regional universities. | Calhoun Community College *, UAH, Alabama A & M, UAB, MTSU, TTU | Y 2-3 | | At least 4 articulation agreements will be developed between regional partners in bio/nano. |
| | 2.3E Support the Charger Products collaboration between PBR and UAH for biotechnology graduate students and business majors through student stipends and internships. | PBR*, UAH, HAIB | 2007 class 3 PhD students enrolled 7/07 Business interns begin 9/07 (6 each year) 2008 class 4 PhD students enrolled 7/08 2009 class 6 PhD students enrolled 7/09 | WIRED funds: Y1 $63,340 Y2 $73,518 Y3 $100,574 Note: WIRED funds will support student tuition, business internships and program director's salary. All costs are related to job training, not product development. PBR funds: Y1 $88,660 Y2 $124,124 Y3 $187,445 | # students enrolled # graduates in targeted programs # students remaining in region after receiving degree |
| | 2.3F Support Undergraduate summer internships in biotechnology | HAIB*, companies in the biotech industry; Biomimetic Therapeutics in | | WIRED funds: Y1 none Y2 $30,000 Y3 $35,000 | |

| | | Franklin, TN | | HAIB/Industry funds:<br>Y1 none<br>Y2 $62,500<br>Y3 $62,500 | |
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| | **2.3G Provide scholarships for community college, baccalaureate and graduate students to pursue study in Bio/Nano/IT & Engineering** | **Action Committee*** | **Y 2-3** | | **VIA will support at least 5 associate degree scholarships in year 1. A minimum of 10 scholarships for baccalaureate and graduate students will be awarded in Yr 2-3.** |
| | **2.3H Support student retention programs in targeted industries, e.g., the UAH Math camp for Engineer Majors** | **Regional universities*** | **Y 2-3** | | **Increase in retention rates of engineering majors.** |
| | **2.3I Apprenticeships, Internships, Co-ops in Advanced Manufacturing and other 2-year degree programs in targeted industries** | **Calhoun Cooperative Program***<br><br>**UAH Coop** | **Y 2-3** | **Y1 – None<br>Y2 - $10,000<br>Y3 - $20,000<br>(WIRED $30,000 total.)** | **Number of students in OJT experiences** |
| **2.4 Fund promising practices that support innovative education efforts to increase skill competencies for employment in targeted industries at the K-20 level** | **2.4A Develop criteria for Jump Start projects where needs are already clear and projects can be strengthened, expanded or replicated Prepare RFP for Jump Start, review, select and fund Develop criteria for innovative programs** | **Leadership Team*, members of the Innovation Network, WIRED staff** | **Y1 Jump Start Proposals solicited and due within one month of IP approval, awards made within one month of due date**<br><br>**Y2 & Y3 Allocated Funds (need** | **Y1-3** | **Selection of Action Committee**<br><br>**Project criteria for Jump Start and Innovation projects**<br><br>**Selection and funding of Jump Start and** |

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| | that link students and workers to occupations or skill sets in targeted industries<br>**Prepare RFP, review, select and fund**<br><br>**Monitor and evaluate progress of funded programs.** | | target dates) | | Innovative projects<br><br>Semi-annual progress reports<br>Evaluation programs |
| **2.5 Profile workforce skills projected for the next 5-10 years to enable appropriate workforce training** | **2.5A Use WorkKeys to profile companies to determine needed skill sets** | **Calhoun ACT Center***<br><br>**Chamber of Commerce*** | **Review existing and commissioned studies of projected workforce skills**<br><br>**Identify any gaps in initial data and implement strategy for filling gaps**<br><br>**Develop conclusions and publish results**<br><br>**Develop strategies to address identified training gaps**<br><br>**Share strategies across region and through Workforce3One** | **WIRED - $35,000** | **Number of jobs in targeted industries profiled** |
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**Goal 3.1: Create an entrepreneurial climate that encourages and supports business development and growth in targeted industries. *Denotes lead organization**

| Key Strategies | Activities | Partners | Timeframes & Milestones | Resources Needed | Desired Outcomes & Metrics |
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| 3.1.1 Increase the number of employers in the targeted industries | 3.1.1A Provide technical assistance to new businesses through established regional incubators by providing funding for mentoring programs | Action Committee* | Y 1-3 | WIRED FUNDS: $45,000 | Number of Mentor Protégé programs supported |
| | 3.1.1B Assist economic development offices in recruitment of new business and the expansion of existing businesses in the targeted industries | Action Committee* | Y 1-3 | | # of new businesses in targeted industries moving to the region |
| | 3.1.1C Host Annual Regional Innovation Summit to showcase entrepreneurs, innovations, new research, education, resources, and products and to recruit potential investors | Action Committee* | Y 2-3 | WIRED funds: $10,000/year $30,000 total | VIA will host at least 1 regional innovation summit each year to increase awareness and investment opportunities in the region. |
| | 3.1.1D Facilitate the extension of angel investment membership and activities to the entire region | Action Committee* | Y 1-3 | WIRED funds: $10,000/year $30,000 total | Increased amounts of leveraged funding from regional Angel investment Networks |

| | | | | | METRIC: ___ new startups in targeted industries |
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| **3.1.2 Facilitate research in Bio/Nano/IT at UAH, Hudson Institute for Biotechnology, Oak Ridge National Laboratory, Alabama A & M University and Vanderbilt University** | | **Action Committee*** | **Y 1-3** | | |
| **3.1.3 Nurture industry cluster development across the region** | **3.1.3A Provide business leaders from each targeted industry with the opportunity to network and form collaborations through at least one regional meeting per year in each targeted industry.** | **Action Committee*** | **Y 1-3** | **WIRED funds: $5,000/year** **$15,000 total** | **At least 1 networking event will be held each year to facilitate networking in the targeted industries.** |
| | **3.1.3B Facilitate organizations such as Partnership for Biotech Research (PBR), and National Association of Manufacturers (NAM) that encourage entrepreneurship by hosting events, sponsor meetings and scholarships** | **Action Committee*** | **Y 1-3** | **WIRED funds: $20,000/year** **$60,000 total** | **At least 1 event per year will be co-hosted by PBR and VIA.** |
| **3.1.4 Facilitate trade development in the targeted industries across the region.** | **3.1.4A Develop a series of training programs focused on international opportunities for the** | **NAITA*** | **YS 1-3** | | **Increased # of international trade agreements in targeted** |

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| | targeted industries across the region.<br><br>2.1.3B Organize industry-specific trade missions, both incoming and outgoing, with key trading partners in the targeted industries. | | | | industries<br><br>Leveraged funding from AL and TN |

**Goal 3.2**: Leverage the MEP pilot project to promote innovation and growth in existing ingrained industries by fostering partnerships that exploit bio and nanotechnologies and facilitate technology transfer in these areas. Focus on "green" processes, biomaterials and renewable resources.  *Denotes Lead Organization

| Key Strategies | Activities | Partners | Timeframes & Milestones | Resources Needed | Desired Outcomes & Metrics |
|---|---|---|---|---|---|
| 3.2.1 Help accelerate the pace of technology transfer from area universities and labs into targeted businesses | 3.2.1A Participate in NIST/MEP Pilot program for Tech Transfer | AZ Technology*<br>NASA<br>ORNL<br>NREL<br>UT- Knoxville<br>UAH<br>Alabama A & M<br>Partnership for Biotechnology Research<br>Alabama Technology network<br>Tennessee MEP Office | Y 1-3 | WIRED FUNDS: $7,500/year<br><br>$22,500 total | At least 10 new concepts will transition from the bench into a business environment through the resources of regional high technology business incubators, NASA, and Hudson Alpha Institute for Biotechnology. |
| | 3.2.1B Organize summit where industry, government, research and economic development leaders can | Action Committee*<br>ORNL<br>NREL<br>UT- Knoxville<br>UAH | Year 1 | | At least 100 regional partners will attend resulting in an increased |

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| | gather to exchange information and bring awareness to the opportunities in bio and nanotechnologies, biomaterials, and alternative energy and other renewable resources in the Tennessee Valley region. | Alabama A & M Partnership for Biotechnology Research<br>Alabama Technology network<br>Tennessee MEP Office<br>NASA | | | awareness of opportunities in emerging technologies and cross pollination between what now seem to be disparate industries. This will be measurable by the follow-up response to the MEP centers. |
| | 3.2.1C Utilize the MEP centers in the region to educate industry participants and facilitate the development of innovative ideas and critical partnerships that are identified or seeded by the summit. Employ other technical assistance organizations such as Techlink to facilitate technology transfer from academic and federal facilities. | Action Committee*<br>AZ Technology<br>ORNL<br>NREL<br>UT- Knoxville<br>UAH<br>Alabama A & M Partnership for Biotechnology Research<br>Alabama Technology network<br>Tennessee MEP Office<br>NASA<br>USDA<br>Large energy companies<br>Commercial and residential contractors and architects<br>TVA | Year 2 | | At least 10 new concepts will transition from the bench into a business environment through the resources of regional high technology business incubators, NASA, and Hudson Alpha Institute for Biotechnology |

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|---|---|---|---|---|---|
| | 3.1.2D *"Harvesting the Sun"* - Hold a nationally-sponsored and attended community outreach program that focuses on renewable resources. Bring local industry to participate in this annual event to educate the general public on where our everyday energy and material resources come from. Use hands-on demonstrations to illustrate how much of what we already use is powered by the sun and discuss the future or renewable resources in this context. | Action Committee* AZ Technology ORNL NREL UT- Knoxville UAH Alabama A & M Partnership for Biotechnology Research Alabama Technology network Tennessee MEP Office NASA | Yr 1-3 | | Minimum of 300 attendees in Yr 1, 400 attendees in yr 2, and 500 attendees in yr 3. Presentations from across the private and public sectors including state and federal leaders. |
| 3.2.2 Support application of technology to new products and services in targeted industries | 3.2.2A Provide workforce training assistance to new/expanded businesses in the targeted industries that are employing new technologies or creating new markets | AIDT* | | | At least 50 workers will be retrained annually to support Workforce skills to accommodate technologically innovative business growth |

**Related Budget Activities**

| | |
|---|---|
| Grant Funded Personnel<br>Salaries and Fringes<br>Director and Administrative Assistant | Year 1: $110,782<br>Year 2: $197,397<br>Year 3: <u>$204,635</u><br><br>Total: $512,814 |

| | |
|---|---|
| **Implementation Plan Development** | Year 1: $30,000 |
| **Contractual Personnel:**<br><br>**Tennessee Liaison**<br>**Sustainability Coordinator** | Year 1: $12,000<br>Year 2: $24,000<br>Year 3: <u>$24,000</u><br><br>Total: $60,000 |
| **Meeting Expenses** | Year 1: $8,738<br>Year 2: $10,000<br>Year 3: <u>$10,000</u><br><br>Total: $28,738 |
| **Competitive RFPs** | Year 1: $123,070<br>Year 2: $1,050,033<br>Year 3: <u>$997,156</u><br><br>Total: $2,170,259 |
| **Travel (includes in-state and out-of-state)** | Year 1: $70,632<br>Year 2: $32,500<br>Year 3: <u>$32,500</u><br><br>Total: $135,632 |
| **501C(6) Designation for Sustainability** | Total: $3,000 |
| **Miscellaneous (Office supplies, printing, postage, computer)** | Total $13,100 |
| **Tennessee Jump Start Project** | Total: $100,000 |
| **Subgrantee Indirect Costs (35% of salaries)** | Total: $136,750 |
| **Subgrantee Budget Total** | Total: $4,457,400 |
| **Grantee – ADECA – Grant Administration** | Total: $642,600 |
| **Total WIRED Grant Budgets** | Total: <u>$5,100,000</u> |

# 3. Regional Governance

## 3.1 Leadership Structure

The VIA Implementation Team has guided the development of the regional plan during the "virtual" phase and into the first six months of "second-generation" status. Upon approval of the implementation plan by the US Department of Labor (DOL), this team will be dissolved and replaced by an Action Committee, composed of members drawn from a leadership team representing the region's target industries and key stakeholders (see figure below). Members from the implementation team will serve within the regional leadership group, on the Action Committee, or on an Innovation Team to provide continuity as the leadership structure moves forward.
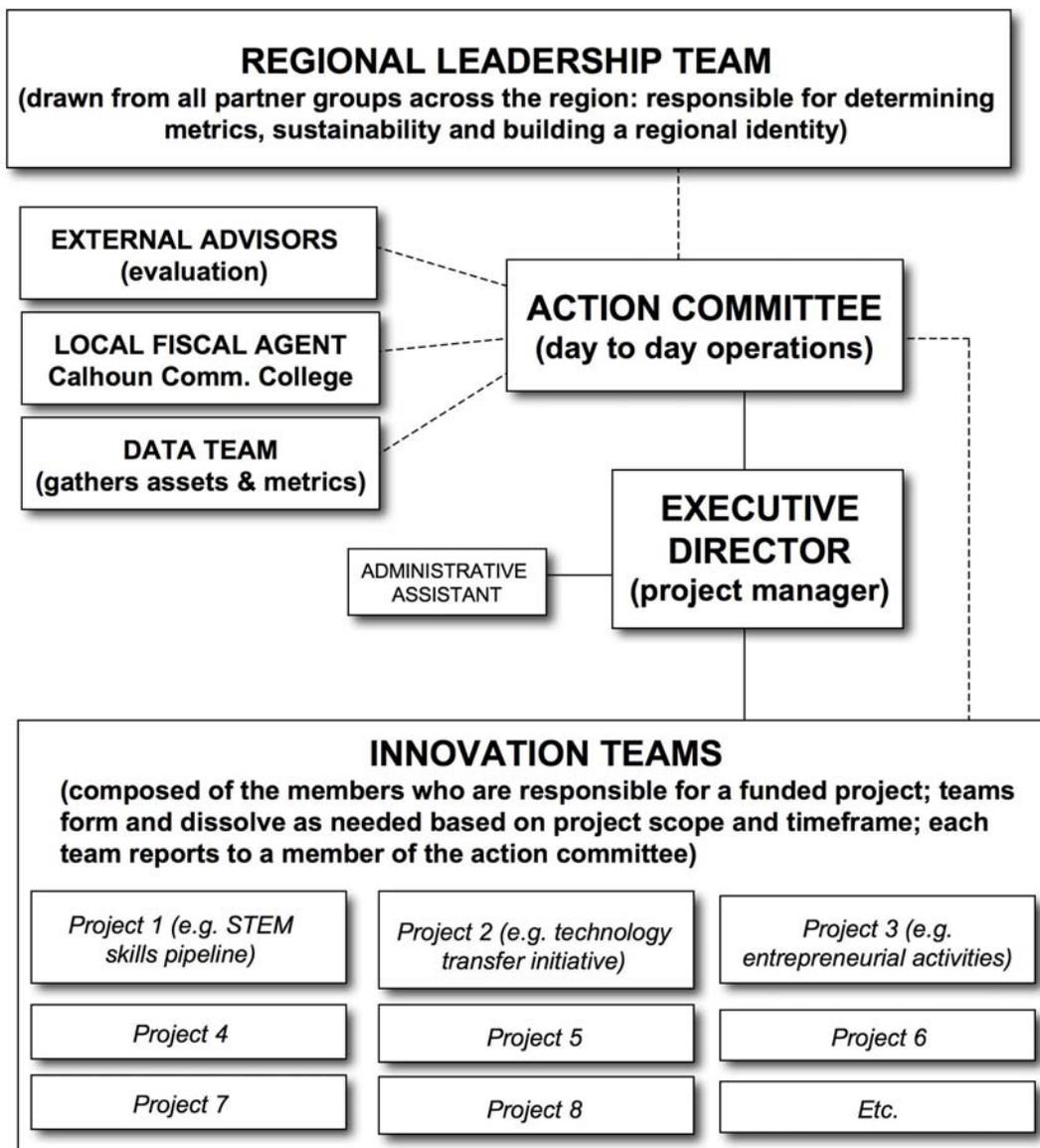
The Leadership Structure consists of the following components:

1. The **Regional Leadership Team** consists of regional leaders who "champion" the growth and development of our targeted industries. They may represent political, educational or business interests and provide high-level guidance and support to the effort. This group will determine the metrics for measuring progress, engage in building regional identity, provide feedback to the Action Committee and identify opportunities for sustainability. In addition, members of the Regional Leadership Team may be recruited by the Action Committee to serve as reviewers for project proposals. At quarterly meetings, the Regional Leadership Team will be briefed on the status of the region and given the opportunity for comment, suggestion and concerns regarding the projects and progress. The Regional Leadership Team represents the universe from among which the members of the Action Committee are recruited. The Executive Director will identify the Regional Leadership Team with input from the Implementation Team.

2. The **Action Committee** serves as the organizing and decision-making body for the WIRED region. Its membership will be drawn from the Regional Leadership Team and shall have representation from the targeted industry clusters, secondary and post-secondary educational systems and economic development and workforce leaders. This group will meet monthly, in person or by conference call, to provide guidance on strategic direction, status of Innovation Team projects and measures of progress. The committee will take a lead role in resource allocation by establishing proposal review teams and, based upon the advice of those teams, will determine which projects receive funding. The Executive Director will select the Action Committee with input from the Implementation Team.

3. An **Executive Director** will oversee the implementation of the region's goals and strategies and serve as the focal point for collaboration and organization across the region. This position will have lead responsibility for general administrative oversight, reporting on project progress against the Implementation Plan and ensuring that performance metrics are met, engaging and supporting the regional leadership team, advisory council, data team and action council and being the public spokesperson for the WIRED initiative across the region and leading the advocacy, media and public relations efforts related to WIRED.

4. An **Advisory Council**, drawn from members outside the VIA region, will meet every six months to evaluate the region's efforts and make appropriate recommendation regarding structure, governance, and progress towards achieving regional goals. *NOTE: This group may include representatives from other WIRED regions and Federal agencies, where appropriate.*

5. The **Data Team** will use the DOL-provided WITS or similar web-based software solutions that combine core and enhanced datasets with GIS mapping capabilities in the day-to-day data collection & analysis, focusing on performance trends & metrics to aid economic development and workforce-related decisions across the region, as identified by the Regional Leadership Team.

6. **Innovation Teams** will be tasked with the implementation of specific goals and projects supported by WIRED funding. Each innovation team will be focused around a specific initiative

or funded proposal. These working groups represent the actual on-the-ground activities of the WIRED VIA initiative and are linked to a designated member of the Action Committee for guidance and progress reporting. Innovation Teams will function based on the scope and timeframe of a project. It is anticipated that several may form and dissolve across the WIRED funding cycle. Other, long-term projects may exist for several years as the work continues.

7. **Fiscal Agents:** VIA funds will flow from the US Department of Labor to the Alabama Department of Economic and Community Affairs (ADECA), who will provide technical assistance, monitor implementation of the initiative, conduct oversight and monitoring of grant activities, coordinate with the USDOL/ETA on grant issues, provide financial and programmatic reports to the USDOL/ETA, etc. as required for grant administration. ADECA will contract with Calhoun Community College as the local fiscal agent for the grant. Calhoun will ensure proper accounting procedures and serve as local point of contact with the state on financial and grants management issues.

8. **Sustainability Coordinator:** Beginning in Year two, a part-time position will be developed with a focus on identifying new funding opportunities (i.e., grants and initiatives) that fit within the regional vision and working with the appropriate partners to help craft and submit those grants. Such a position is a key part of the sustainability initiative and may evolve into a full time opportunity for VIA as the initiative extends past the funding provided by the WIRED initiative.

# 4. Operations

## 4.1. Management
The Alabama Department of Economic and Community Affairs is the fiscal agent for the VIA WIRED grant and will contract the administration of programs under the Initiative to Calhoun Community College. Under the direction of the Action Council, the **Valley Innovation Alliance** will be established as a 501(c) type non-profit organization. Program staff, including an Executive Director and an Administrative/Communications Assistant, may ultimately become employees of VIA, although they may initially be employed by Calhoun Community College. Staff support provided to WIRED by Calhoun and other partners will be eligible for reimbursement under the grant.


## 4.2. Guiding Principles for Funding Regional Proposals

To enlarge the transformative power of the WIRED initiative, VIA will re-grant a portion of the funds each year in targeted areas. A **minimum** of $250,000 will annually be set aside for these efforts. The Implementation Team feels strongly that a significant portion of these funds should be dedicated to promising practices that support efforts to increase skill competencies in the targeted industries for K-20 programs (see strategy 2.4 in the Strategies and Activities Matrix). Additional areas of focus will likely emerge as the implementation plan moves forward. These may or may not include supporting small business development in the targeted industries, assisting tech transfer opportunities, or encouraging adult worker retraining. The asset map and core competencies developed by the Data Team (with potential outside technical assistance) will be critical to better define these areas of impact. It will be incumbent upon the Action Committee

to quickly identify the subsequent focus areas where re-granting will be most powerful. During year 1, funds will be allocated to support so-called "Jump-Start" projects – those that are already underway and whose influence can be accelerated with additional funds. Year two and three funding prospects are not limited to current projects, but can be applied to initiate additional opportunities. A rigorous review process will be set in place by the Action Committee, with support from DOL and the guiding advice of Generation I regions such as Metro Denver. This review format will select applicants whose projects support the transformational outcomes identified in the implementation plan. The scoring rubric used for the review process should embody the following principles:

**Regional in scope**: Highest consideration will be given to projects that transcend political or artificial boundaries in favor of regional economic development. WIRED funding will favor projects that cross state and county lines, school district lines, community college and workforce region boundaries and that can show impact to the regional economy.

**Sustainable:** Preference will be given to activities that show potential for sustainability beyond the three-year period of the WIRED grant.

**Transformational:** WIRED programs and activities funded through the grant will create regional partnerships and networks that have the potential of transforming existing workforce, educational and entrepreneurial models.

**Industry-targeted**: Projects funded under the Initiative must meet needs of industry. In the case of programs at the K-12 or community college levels, projects should also provide STEM skills that will allow students to move into careers in the selected industry clusters.

**Driven by partnerships:** Preference will be given to projects that include many active partners, such as (but not limited to): cluster businesses, workforce regions, school districts, community colleges, universities, economic development offices, etc.

**Replicable:** Successful projects should be replicable to other parts of the region and/or country.

**Integrated into local economy and the recipient organization**. Projects and activities funded under VIA should correspond to organizational activities already in place, underway or planned.

**Leveraged:** WIRED will give preference to projects and activities that are leveraged with other funds, preferably industry and foundation funds.

**Innovative:** Highest consideration will be given to applications that show understanding of the role of innovation in regional economic development.

## 4.3 Conflict of Interest Issues

Although we encourage applications by individuals representing organizations that are part of the panels, any member who is also an applicant should recuse himself/herself from reviewing related proposals or voting on prioritization of funding for competing interests. The Executive Director should be made aware of any potential conflict of interest in order to ensure that the process remains objective.

## 4.4 Existing Regional Partnerships

Alabama A & M University
Alabama Mathematics, Science and Technology Initiative (AMSTI)
Alabama Office of Workforce Development
Alabama Department of Education
Alabama Technology Network
AZ Technology
Biosouth
Biotechnology Association of Alabama
BioTN
BizTech
Boards of Education and School Boards
    Franklin County (TN)
    Giles County (TN)
    Limestone County (AL)
    Lincoln County (TN)
    Madison County (AL)
    Maury County, TN
    Morgan County (AL)
Calhoun Community College (AL)
Center for Industrial Services (TN)
Columbia State Community College (TN)
Darke Technologies
Decatur/Morgan County Chamber of Commerce
Drake State Technical College (AL)
"Dream It, Do It" Foundation
Economic Development Partnership of Alabama
Engineering Academy Initiative for Alabama
Farm Bureau (AL)
Farm Bureau (TN)
Hudson Alpha Institute for Biotechnology
Huntsville Angel Network
Huntsville/Madison County Chamber of Commerce
Innovation Valley – nano alliance
International Services Council of Alabama
Junior Achievement
Marshall Space Flight Center
Martin Methodist College (TN)
Middle Tennessee State University – BS in Genetics/Biotechnology, MS in Biotechnology
Middle Tennessee Technology Corridor Council
Morgan County Economic Development Association
Motlow Community College (TN)
NAITA (north Alabama international trade association)
National Renewable Energy Lab (NREL)
National Science Foundation

NIH
North Alabama Industrial Development Authority
Northeast Alabama Community College (AL)
Northwest Alabama Shoals Community College (AL)
Oak Ridge Associated Universities (ORAU)
Oak Ridge National Laboratories
Partnership for Biotechnology Research
Port of Huntsville
Project Lead the Way
Small Business Administration
Snead Community College (AL)
Still Serving Veterans
Tennessee Alliance for Local Enterprise
Tennessee Biotechnology Association
Tennessee Employment and Workforce Development Division
Tennessee Department of Economic and Community Development
Tennessee Department of Education
Tennessee Department of Labor and Workforce Development
Tennessee Valley Corridor (NCO Education Project)
Tri-State Research Collaboration - Alabama A&M University, Jackson State University, and Tennessee State University – includes component on Nanoscale Science
TVA
University of Alabama at Huntsville & its office of economic development
University of Alabama (through AZ Technology lignin project)
US Department of Agriculture
US Department of Education
US Department of Labor
UT Space Institute
VaNTH (Vanderbilt)
Von Braun Center for Science and Innovation
Wallace-Hanceville Community College (AL)