

Southeast Tennessee Development District

2014 Labor and Education Alignment Program (LEAP)

Regional Apprenticeship Preparedness Program (RAPP)

Southeast Tennessee Development District

IN PARTNERSHIP WITH

1. TCAT Athens and Cleveland State Community College
2. Bradley County, McMinn County, Meigs County and Polk County Schools
3. Denso, Mars Chocolate North America, E & E Manufacturing, Heil Trailer, Gestamp, Jackson Chair, and Cormetech

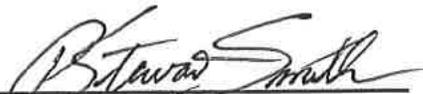
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Director of Higher Education Institution



Project Director

Regional Apprenticeship Preparedness Program (RAPP)

Abstract

In southeast Tennessee, skills shortages and a low labor market supply are a major threat to strong performance in manufacturing and, if not addressed, can potentially thwart the trend of steady manufacturing growth.

Local employers have identified a critical need for mechatronics skill sets which have broad-based manufacturing applications. Recently, Volkswagen announced its expansion to produce a new SUV. The \$900 million investment will create 2,000 new direct jobs, and 3,600 additional jobs will be added by other businesses/suppliers.¹ Due to the planned expansion, a VW supplier's HR Director recently stated that his company could increase its workforce by up to 300 new jobs, but added that he does not know where he will find the workers. VW is but one example of the many manufacturing businesses in the region that are currently expanding or preparing to expand which is creating a labor supply problem for the southeast Tennessee region. In order to address skills gaps and a weak labor supply, the Tennessee Technology Center at Athens, Cleveland State Community College, Bradley, McMinn, Polk and Meigs County high schools, and regional employers propose RAPP. The project will:

- Introduce dual enrollment and dual credit courses in seven high schools in three counties,
- Address negative perceptions of manufacturing via strategic marketing,
- Hire part-time instructors in McMinn County High Schools for ninth and tenth grade courses,
- Align with the *Drive to 55* initiative to increase attained credentials,
- Expand the in-demand skilled workforce supply,
- Focus on employer-identified in-demand skill sets with mechatronics by:
 - Purchasing much needed training equipment for the high schools, and
 - Installing the Pathways to Prosperity mechatronics cluster in all high schools

The LEAP Grant-funded equipment will allow students to experience the mechanical and electrical processes as well as develop the skills necessary to problem-solve in an environment that closely mirrors experiences in post-secondary training as well as the workplace.

The region is already benefiting from the Southeast Tennessee Pathways to Prosperity (SETPP)². If funded, RAPP will strengthen SETPP's regional footprint and educational impact by focusing on high demand advanced manufacturing jobs. Sustainability is supported by the Dual Enrollment Grant program and Tennessee Promise providing funds for high school students and graduates. Educator partners will ensure continuation of dual enrollments and credits, and all partners will remain market-responsive to workforce supply/demand.

¹ Sources: Chattanooga Area Chamber of Commerce and <http://www.timesfreepress.com/news/2014/jul/14/vw-announce-new-suv-today-chattanooga>

² <http://www.setnpathways.com/industry-partners>

Regional Apprenticeship Preparedness Program (RAPP)

Program Need: Recruiting, training and sustaining a skilled advanced manufacturing workforce in southeast Tennessee remains a challenge. Recently, Volkswagen (VW) announced its expansion and production of a new SUV which will commence in 2016. The \$900 million VW investment will create 2,000 new direct jobs, and an estimated 3,600 additional jobs will be added by other businesses such as Tier 1 – 3 suppliers.¹ Due to the planned expansion, a VW supplier's HR Director recently stated that his company is preparing to increase its workforce by up to 300 new jobs, but added that he does not know where he will find the workers. And, VW is but one example of the many manufacturing businesses in the region that are currently expanding or preparing to expand which is creating a labor supply problem for the southeast Tennessee region.

Primary data sources which include, in part, regional employers' announcements of expansion and subsequent increases in hiring are noted above. Expansion announcements are good news; however, southeast Tennessee does not have enough skilled workers to meet the advanced manufacturing sector's expansion and labor needs.

Secondary data sources, THEC/UT Labor Supply-Demand Studies and LMI, identify career pathways that are in-demand and show prospects of growth. For example, the Production Pathway's 10-year supply is projected to be 44 workers, but the demand is projected to be 4,599 workers (Attachment One Data Lists). To further demonstrate the positive trends for manufacturing jobs, RAPP's four-county manufacturing job growth from 2009 to 2013 was 7.7% based on the Quarterly Census of Employment and Wages report² (see Attachment One Data

¹ Sources: Chattanooga Area Chamber of Commerce and

<http://www.timesfreepress.com/news/2014/jul/14/vw-announce-new-suv-today-chattanooga>

² <http://www.tn.gov/labor-wfd/lmi/lmi.shtml>

Lists). Educational pathways which lead to these in-demand jobs begin with the post-secondary credentials earned at the TCAT or community college. U.S. Census data which reflect the regions' educational attainment levels indicate a significant opportunity for improvement in terms of post-secondary credentials, particularly in high demand career pathways which this proposal addresses (see Attachment One Data Lists and Attachment Seven Educational and Career Pathways). In the four RAPP-participating counties, the average percentage of adults 25 years and older with an Associates Degree or higher is only 19.8%.

In southeast Tennessee, skills shortages and a low labor market supply are a major threat to strong performance in manufacturing and, if not addressed, can potentially thwart the trend of steady manufacturing growth. Across the country, manufacturers have reported significant shortages in skilled production jobs – machinists, operators, maintenance, technicians, and more – are taking their toll on manufacturers' ability to expand, innovate and improve productivity. Workforce shortages or skills deficiencies in skilled production roles have been reported by 74% of manufacturers nationwide. Companies expect the skilled production group to be the hardest to find in the job market.³ Local data mirror national data—local employers report a critical shortage of skills associated with mechatronics. Locally, Olin Chlor Alkali, Huber, and Resolute Forest Products need process control technicians, the training of which is through the TCAT's Electro-Mechanical program. Recently, feedback from local employers' enabled the RAPP Steering Committee to identify mechatronics training in order to address skills gaps for existing and future workers in advanced manufacturing. Mechatronics skills have broad applications throughout the industry.

Manufacturers are also increasing the deployment of process automation. The installation of

³ <http://www.themanufacturinginstitute.org/Research/Skills-and-Training-Study/~media/70965D0C4A944329894C96E0316DF336.ashx>

new technology is making it harder for both existing and new employees to keep up; the industry’s technological advances are rapidly changing the nature of work.⁴ Recently, Waupaca Foundry, Denso, and Olin Chlor Alkali installed new automation which required existing employees to obtain new skills and raised the skills expectations for its future workforce.

The U.S. public strongly believes in the importance of manufacturing for the economy and Americans’ prosperity; however, when it comes to choosing manufacturing as a career choice, it is at the bottom of the list. Out of seven key industries, manufacturing ranks fifth. When asked if their parents encouraged them to pursue a career in manufacturing, only 17% responded “yes.”⁵

To further underscore the need, the southeast Tennessee region has seen a large increase in manufacturing, mainly in automotive (Volkswagen and its suppliers) and in home appliances (Whirlpool). The region has the most new projects in manufacturing, doubling the investment that has taken place in middle and west Tennessee. There are also continued advancements of chemical and solar energy companies (Wacker Chemie) due to growing demand.⁶

The importance of automotive manufacturing to the Tennessee Valley region was recently recognized by the U.S. Economic Development Administration’s designation of the Investing in Manufacturing Communities Partnership (IMCP) DRIVE. The regional IMCP DRIVE for the Future initiative will ensure that the region remains globally competitive.

The following chart provides the clear linkages between the region’s needs and program activities:

Need	Activities to Address Need
Address the weak advanced manufacturing labor supply and contribute to the goals of Drive to 55 which will result in an increase in regional post-secondary educational	Enhance the regional Pathways to Prosperity initiatives with dual enrollments and dual credit courses in high schools located in Bradley,

⁴ <http://www.themanufacturinginstitute.org/Research/Skills-and-Training-Study/~media/70965D0C4A944329894C96E0316DF336.ashx>

⁵ http://www.themanufacturinginstitute.org/~media/5856BC6196764320A6BEFA0D9962BE80/2012_Public_Perception_of_Manufacturing_Report.pdf

⁶ <http://www.tennessee.gov/education/cte/doc/PathwaysTNStrategicPlan7.2.13.pdf>

credentials	McMinn, Meigs and Polk Counties; purchase and install equipment
Meet manufacturers' current and future hiring needs and address skills gaps especially relating to new technologies (process automation)	Focus training on mechatronics/electro-mechanical as identified by regional manufacturers—mechatronics and robotics labs and simulators
Address the negative perceptions of advanced manufacturing careers and workplace environment	Significantly enhance Pathways marketing and outreach to educate middle and high school students, parents and counselors/teachers on advance manufacturing career opportunities and 21 st century workplace conditions; accomplish via pamphlets, videos of manufacturing and training programs,

Program Plan: The program design involves seven high schools: Bradley County—Cleveland City, Bradley Central, and Walker Valley High Schools; McMinn County—McMinn County and McMinn Central High Schools; Meigs County High School; and Polk County High School. The near-term goal for all seven schools is to launch dual enrollment and dual credit opportunities for students via TCAT Athens and CLSCC respectively. Currently, Pathways to Prosperity curricula are embedded in Bradley Central and McMinn County High Schools. The ultimate goal is to install Pathways courses/clusters for manufacturing in all the high schools. For the purposes of the grant, the mechatronics cluster will be installed and ready for enrollments in fall 2015 for all participating schools except Meigs and Polk County High Schools. These high schools are planning to become part of the regional Pathways network by fall of 2017. However, during the two-year grant period, Meigs County, Polk County, McMinn County, and McMinn Central High Schools will introduce TCAT-provided dual enrollment courses beginning fall of 2015. Participating Bradley County high schools—Cleveland City, Bradley Central and Walker Valley High Schools—will install CLSCC-sponsored dual credit courses by fall 2015. LEAP funds will allow the implementation and deployment of dual enrollment and dual credit courses and will be further supported through grant-funded equipment. The overarching goal for the region is to

have fully-deployed mechatronics cluster in all county schools which, consequently, will roll all the schools into the Southeast Tennessee Pathways to Prosperity (SETPP) initiative.

Year	Project Timeline: "0" indicates completion												
1.0	Year 1 Activities 2015	Jan	2	3	4	5	6	7	8	9	10	11	Dec
1.1	Equipment Procurement	X	X	X	X	X	X	0	0	0	0	0	0
1.2	Marketing Procurement	X	X	X	0	0	0	0	0	0	0	0	0
1.3	Articulations	X	X	X	X	0	0	0	0	0	0	0	0
1.4	Begin marketing campaign				X	X	X	X	X	X	X	X	X
1.5	Install equipment							X	0	0	0	0	0
1.6	RAPP Team Meetings	X			X			X			X		X
1.7	Identify cohorts in Bradley, Meigs, McMinn and Polk Counties									X	X	X	X
1.8	Dual credit begins for Bradley County schools; Dual enrollment begins for McMinn, Meigs and Polk County High Schools								X	X	X	X	X
1.9	Data Collection									X	X	X	X
1.10	Quarterly tracking/reports				X			X				X	
1.11	Industry Tours/Employers at H.S.		X	X	X	X	X	0	0	0	0	0	0
2.0	Year 2 Activities 2016	Jan	2	3	4	5	6	7	8	9	10	11	Dec
2.1	Student data	X	X	X	X	X	X	X	X	X	X	X	X
2.2	RAPP Team Meetings	X			X			X			X		X
2.3	Marketing	X	X	X	X	X	X	X	X	X	X	X	X
2.4	Dual credit or enrollment cont.	X	X	X	X	X	X	X	X	X	X	X	X
2.5	Data collection	X	X	X	X	X	X	X	X	X	X	X	X
2.6	Quarterly tracking/reports	X			X			X			X		X
2.7	Industry Tours/Employers at H.S.					X	X	X	0	0	0	0	0

Dual enrollment and credit students will take KeyTrain pre- and post-tests designed to establish a baseline and record progress, respectively. Students (and incumbent workers when applicable)

will be assigned a grant participant number in order to adhere to privacy regulations. Cohort enrollments, pre-test/post-test KeyTrain scores, attendance, retention, course completion, credentials earned, pre-hire National Career Readiness Certificates, and job placements are metrics to be tracked. Each participating high school will purchase equipment which will allow students to engage in hands-on learning and will allow them to demonstrate their newly-learned skills and job-readiness, the results of which will be tracked and recorded. The fall 2015 cohort is projected to be 100 for the seven participating high schools. In order to measure the impact of marketing on negative perceptions of manufacturing, the program will use surveys to assess perceptions before and after a marketing event (e.g. 21st century manufacturing video, industry tours). The CTE Directors will administer the surveys, which will be developed by the Steering Committee, and all data results will be conveyed to the Project Director.

The RAPP Team's Project Director is the Regional Projects Manager with the Southeast Tennessee Development District (SETDD) and some of the grant management responsibilities will include convening quarterly meetings, email and phone communications, data management, and quarterly reports. TCAT Athens RAPP Program Manager (Scott Packett) will assist the Project Director in obtaining student data from CTE Directors, follow through on key deliverables, and ensure benchmarks of the program and project timeline are met. Decision-making will be a collective effort of the Steering Committee when appropriate. The TCAT and CLSCC contacts are Stewart Smith (Director) and Dr. Saleem Mirza (Dean of Business and Technology) who are also on the Steering Committee along with the CTE Directors, SETPP Director/staff, Tennessee Association of Manufacturers President/CEO, and two employers (Denso and E & E Manufacturing), all providing oversight during the two-year grant period.

The program's grant-funded equipment will provide students the opportunity to develop valuable, hands-on skills needed in the workforce. The equipment will allow students to experience the mechanical and electrical processes as well as develop the skills needed to problem-solve in an environment that closely mirrors experiences in post-secondary training as well as the workplace. The equipment will support in-demand skills attainment—skills that will transfer across many industrial settings and that are essential to regional manufacturers' success and productivity. Details of the equipment are included in a separate attachment identified as "Equipment List" (Attachment Two).

Strength of Partnership: Regional employers participating in the quarterly Plant Managers meeting hosted by the TCAT at Athens and Cleveland State Community College (CLSCC) recently launched the Ready To Work Program in McMinn County (see Attachment Nine Plant Managers Meetings). The Ready-to-Work Program is a prime example of a public/private partnership and grew out of the work of the Regional Plant Managers meetings and the City of Athens Workforce Development Committee. Participants learn about the hard and soft skills necessary to become productive manufacturing team members; participants who complete the program are provided enhanced employment opportunities with the participating industries. Recent discussions in Plant Managers meeting regarding the RAPP proposal addressed the need for high school students, administrators, and guidance counselors to tour local industry and to bring industry leaders into the classroom to lecture on the soft skills needed to enter the workforce. All employers stated that they will participate in the above-noted activities and include, in part, the following: Johnson Controls, Schott Gemtron, Dynasty Spas, Hackney Homes, HP Pelzer, Crescent Sock Company, E&E Manufacturing, Resolute Forest Products, Denso, Cormetech, Gestamp and Vytron. SETDD's Regional Project Manager (Stephen

Dunn—Project Director), TCAT’s Stewart Smith, and CLSCC’s Dr. Saleem Mirza have many years of experience managing grant programs and will collectively supervise grant program activities. The CTE Directors—Jonathan Pierce (McMinn Co.), Arlette Robinson (Bradley Co.—Bradley Central/Walker Valley), Renny Whittenbarger (Cleveland), Louetta Moats (Polk Co.) and Milburn Harmon (Meigs Co.) —will serve as key facilitators for high school data collection. The Program Manager (Scott Packett) and CTE Directors will work closely with the Project Director to meet timeline deadlines, collect data, and ensure task completion and timely program reports. CTE Directors are responsible for ensuring articulation agreements are in place, equipment is purchased and installed, part-time instructors are hired (McMinn County only) and Pathways manufacturing cluster is implemented where applicable. Mars Chocolate North America in Cleveland, Tennessee has guaranteed the apprentices’/interns’ wages during the grant period, the total of which exceeds the grant’s fund-matching requirements (see Attachment Three). Frequent communication with the CTE Directors, Program Manager, and Project Director will occur in order to implement and successfully execute program components. Dr. Saleem Mirza and Stewart Smith will serve as Co-Chairs of Steering Committee which will provide oversight and governance. The Project Director will submit reports to THEC as required.

Budget Plan: There is a clear alignment between the funds requested and the grant activities. The equipment funds are not only critical to attracting students into the program, but also necessary to engage, train and subsequently to expand the regional manufacturing workforce pipeline. The equipment purchase also aligns with the goal of closing the skills gaps in the region and better-preparing students entering post-secondary and manufacturing jobs. The equipment will allow hands-on, work-related learning, and students can obtain the necessary skills to enter post-secondary training and the workforce. When installed, the equipment may also serve as a

marketing tool, particularly the robotics lab which appeals to students of all ages. The marketing budget aligns with another goal of increasing the advanced manufacturing labor supply. The Salary line items will fund teachers' manufacturing externship stipends and instructors for dual enrollments in McMinn, Meigs and Polk Counties and for two part-time instructors for 'feeder' cohorts in 9th and 10th grades in McMinn County in preparation for dual enrollment or dual credit. The wages are needed on the outset in order to build the enrollments at the high schools for sustainability. The Supply line item includes marketing funds which will provide much needed recruitment and advanced manufacturing educational materials and communications at middle/high schools for the RAPP project, Pathways programs and post-secondary (dual enrollment/credit). The funds allocated for marketing align with the goal of increasing the manufacturing labor supply, increasing earned credentials and mitigating negative perceptions of a manufacturing career. The travel budget is necessary for reimbursement of expenses associated with program activities, trainings, and conferences and will allow program-funded staff do their jobs. SETDD is requesting administrative funds to cover costs associated with the grant.

Sustainability: Prior to the LEAP Grant RFP, the southeast Tennessee region (Local Workforce Investment Area 5) has been active in partnerships and collaborative efforts including regional educators (K-12 and post-secondary), employers, and workforce development (SETDD's Division of Career & Workforce Development). Recently, Bradley County's school system was awarded U.S. Department of Labor Youth CareerConnect four-year grant to strengthen employer ties with K – 12. The Pathways curricula are currently present in two of the RAPP regions' counties (Bradley and McMinn), and the RAPP project intends to further expand Pathways and strengthen what is already in place. Tennessee Promise or the Dual Enrollment Grant program will provide foundational support for sustainability—tuition will no longer be a barrier to high

school students/graduates which means that dual enrollment costs will be covered and will sustain TCAT's dual enrollment instructors' wages after two years of grant funds support. The National Career Readiness Certificate is inexpensive, and the high schools have agreed to assume assessment costs after the grant period. The regional Pathways program has gained both momentum and traction, and sustainability is embedded via Pathways curricula in the RAPP region's school districts: Bradley and McMinn Counties.⁷ The RAPP project resources will further enhance sustainability through increased capacity, new equipment and a significant marketing/educational outreach budget. Educator partners will ensure continuation of dual enrollments and credits, and all partners will remain market-responsive to workforce supply/demand.

SETPP already has solid communication channels, an understanding of resource sharing and scalable collaboration between regional partners (employers, educators, local governments, public workforce system, and other key supporters (i.e., Tennessee Association of Manufacturers, Chambers of Commerce, ECD, etc.)), and it remains ongoing and sustainable.⁸ The high schools will ensure equipment remains viable and in repair beyond the grant period and factory warranties; functioning equipment is necessary to ensure future enrollments, program continuity and workforce development. Teachers will regularly test equipment and report malfunctions for immediate repair during and after the grant period. Beyond the grant period, partner roles will include, in part, activities that strengthen and expand SETPP (e.g. new dual enrollment and credit opportunities), address employers' emerging workforce needs (market responsiveness), and introduce state-of-the-market technologies within curricula as needed.

⁷ <http://www.setnpathways.com>

⁸ <http://www.setnpathways.com/industry-partners>