

Budget

Dayton Regional STEM School (011506) - Montgomery County - 2017 - Straight A Fund - Rev 0 - Straight A Fund - Application Number (58)

U.S.A.S. Fund #: 466

Plus/Minus Sheet (opens new window)

Purpose Code	Object Code	Salaries 100	Retirement Fringe Benefits 200	Purchased Services 400	Supplies 500	Capital Outlay 600	Other 800	Total
Instruction		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Support Services		0.00	0.00	40,000.00	0.00	0.00	0.00	40,000.00
Governance/Admin		24,150.00	10,850.00	0.00	0.00	0.00	0.00	35,000.00
Prof Development		0.00	0.00	40,000.00	0.00	0.00	0.00	40,000.00
Family/Community		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Safety		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Facilities		0.00	0.00	0.00	0.00	850,000.00	0.00	850,000.00
Transportation		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect Cost							0.00	0.00
<b>Total</b>		24,150.00	10,850.00	80,000.00	0.00	850,000.00	0.00	965,000.00
<b>Adjusted Allocation</b>								0.00
<b>Remaining</b>								-965,000.00

Application

Dayton Regional STEM School (011506) - Montgomery County - 2017 - Straight A Fund - Rev 0 - Straight A Fund - Application Number (58)

**Please respond to the prompts or questions in the areas listed below in a narrative form.**

**A) APPLICANT INFORMATION - General Information**

1. Project Title:  
DRSS Center for STEM Career Development: Innovative education for Ohio's next generation workforce

2. Project Tweet: Please limit your responses to 140 characters.  
Expanding career development opportunities in high-demand fields through partnerships in fields of CS, Engineering & Manufacturing  
*This is an ultra-concise introduction to the project.*

3. Estimate of total students at each grade level to be directly impacted each year.

*This is the number of students that will receive services or other benefits as a **direct result** of implementing this project. This does not include students that may be impacted if the project is replicated or scaled up in the future. It excludes students who have merely a tangential or indirect benefit (such as students having use of improved facilities, equipment etc. for other uses than those intended as a part of the project). The Grant Year is the year in which funds are received from the Ohio Department of Education. Years 1 through 5 are the sustainability years during which the project must be fiscally and programmatically sustained.*

Grant Year					
Education	Pre-K Special	K	1	2	3
4	5	108 6	108 7	108 8	
100 9	80 10	80 11	75 12		

Year 1					
Education	Pre-K Special	K	1	2	3
4	5	108 6	108 7	108 8	
105 9	90 10	80 11	80 12		

Year 2					
Education	Pre-K Special	K	1	2	3
4	5	108 6	108 7	108 8	
108 9	100 10	85 11	80 12		

Year 3					
Education	Pre-K Special	K	1	2	3
4	5	108 6	108 7	108 8	
108 9	100 10	90 11	80 12		

Year 4					
Education	Pre-K Special	K	1	2	3
4	5	108 6	108 7	108 8	
108 9	102 10	95 11	85 12		

Year 5					
Education	Pre-K Special	K	1	2	3
4	5	108 6	108 7	108 8	

4. Explanation of any additional students to be impacted throughout the life of the project.

*This includes any students impacted indirectly and estimates of students who might be impacted through replication or an increase in the scope of the original project.*

DRSS serves as a STEM training center for the Dayton region and is a participating school in the state's competency-based education (CBE) pilot grant. Due to these initiatives, the school serves as a learning laboratory and education R&D facility for the region and is well positioned to experiment with new initiatives that can be spread across the state. For this reason, the footprint of this project has the potential to spread well beyond the student body of DRSS.

5. Lead applicant primary contact: - Provide the following information:

First and last name of contact for lead applicant  
Robin Fisher, Superintendent/CAO

Organizational name of lead applicant  
Dayton Regional STEM School (DRSS)

Address of lead applicant  
1724 Woodman Drive, Kettering, Ohio 45420

Phone Number of lead applicant  
937-256-3777

Email Address of lead applicant  
robin.fisher@wright.edu

*Community School Applicants: After your application has been submitted and is in Authorized Representative Approved status an email will be sent to your sponsoring entity automatically informing the sponsor of your application.*

6. Are you submitting your application as a consortium? - Select one checkbox below

Yes

No

If you are applying as consortium, please list all consortium members by name on the "Consortium Member" page by clicking on the link below. If an educational service center is applying as the lead applicant for a consortium, the first consortium member entered must be a client district of the educational service center.

[Add Consortium Members](#)

7. Are you partnering with anyone to plan, implement, or evaluate your project? - Select one checkbox below

Yes

No

If you are partnering with anyone, please list all partners (vendors, service providers, sponsors, management companies, schools, districts, ESCs, IHEs) by name on the "Partnering Member" page by clicking on the link below.

[Add Partnering Members](#)

## B) PROJECT DESCRIPTION - Overall description of project and alignment with goals

8. Describe the innovative project: - Provide the following information

*The response should provide a clear and concise description of the project and its major components. The following questions will address specific outcomes and measures of success.*

a. The current state or problem to be solved; and

In Ohio, specifically in Dayton area, there is a shortage of those entering workforce with relevant training and skills required to meet demand for STEM-related academic and career fields. Learn to Earn reports, engineering-focused STEM disciplines and careers in Montgomery Co. projected to grow exponentially by year 2025. This is due in large part to proximity of Wright-Patt Air Force Base and affiliated organizations. Specifically, aerospace R&D, aerospace manufacturing, and I.T. are projected to see nearly 15,000 more jobs in the Dayton area; however, the region's schools are not preparing MS/HS students with hands-on and applied skills to enter post-secondary training/education programs that ultimately will meet this projected demand. The "Dayton Metro Workforce Strategy Baseline Data" reports (March 2016), the workforce challenges in these fields are complex. As a result only 21% of these industries are under age 35, meaning a critical shortage of future qualified workers.

b. The proposed innovation and how it relates to solving the problem or improving on the current state.

In order to address training and skill deficits identified in Dayton region, DRSS will create cutting edge, hands-on learning spaces for students in grades 6 through 12 that will provide them with knowledge and expertise necessary to successfully pursue in demand careers.

Those spaces include an IT Collaboration Center (ITCC) and Center for Manufacturing (Mfg.) and Engineering (Eng.) Sciences. (CMEES). I.T. and CS career skills will be developed in the ITCC, which will be designed after the SCALE-UP (Student-Centered Active Learning Environment for Undergrad Programs) model classrooms developed by NC State Univ. and adopted by innovative colleges and universities such as Wright State and M.I.T. This model centers on the use of student workstations, where groups of students work collaboratively on IT or CS projects such as coding or programming. Each station includes a projection system and screen, which enables the students in the group to display work on their individual screens to the entire group. Each student will be able to control the screen in order to facilitate comparisons and clarifications between the member of each group. An instructor station and larger projection system will be located in the center of the space, which would allow the instructor to project from his/her computer, as well as from student workstations. Curriculum support will be provided by local education and industry partners who understand and share need for a more prepared workforce. The IT curriculum will be incorporated into every grade level, beginning in grade 6, in order to generate higher interest and participation by all students. This space will allow us to further develop our IT career pathways and offer industry credentialing opportunities that will qualify our students to secure a job in the IT field upon graduation. Those who decide to pursue higher ed will then be able to enhance and subsidize their education by working at high paying jobs while earning degree. In the CMEES, these skills will be developed through a collaborative partnership with Wright State's Center for Mfg. Sciences. This space will be equipped with the necessary equipment and tools to enhance the STEM focused, hands-on and PBL experiences at the school. The equipment will include photonics (laser and electro-optics) technology, additive and subtractive mfg technology (3-D printing and laser micro-machining). The space will allow DRSS to grow our Mfg Tech and Eng and Science Technologies pathways and produce grads with in-demand industry credentialing. Students will also be provided with opportunities to build entrepreneurship skills as they act as consultants for local businesses and design their own products. Our strong partnership base has already discovered the value of students who are educated in innovative environments, and these expanded resources will only strengthen our interest in our students for internships/future employment. Targeted PD/training necessary for optimal use of spaces is crucial for project success. MS/HS teachers will receive PD in CS and Eng education through use of Code.org resources and Project Lead the Way PD model. Training/PD in the use of laser-based equipment will be provided by Midwest Photonics Education Center (MPEC) through NSF Regional Center, which includes Dr. Dosser's Center for Mfg Science at WSU. PD in PBL and STEM education best practices will be provided by the DRSS Training Center, the Dayton Regional STEM Center, Ohio ESCs and the Buck Institute. This CMEES will enable DRSS to increase the CTE course offerings and provide innovative spaces where high-tech, hands-on tools and equipment can be accessed by entire student body. The level of project-based instruction will therefore increase, and the opportunities for business/industry partnerships will grow through use of the space. DRSS will incorporate more tech into the existing curriculum and will align projects to address the needs of community.

9. Select which (up to four) of the goals your project will address. For each of the selected goals please provide the requested information to demonstrate your innovative process. - (Check all that apply)

a. Student achievement

i. List the desired outcomes.

*Examples: fewer students retained at 3rd grade, increase in graduation rate, increased proficiency rate in a content area, etc.*

The DRSS Center for Career Development will increase student achievement in the following areas: Student Achievement Goal 1: By the end of the 2021-2022 school year, 20% of graduating seniors will complete an ODE approved Career Pathway. Student Achievement Goal 2: By the end of the 2021-2022 school year, 20% of graduating seniors will have earned an industry-recognized credential. Student Achievement Goal 3: By the end of the 2021-2022 school year, the percentage of DRSS students earning an ACT Math College Readiness Benchmark Score of 22 or higher will increase by 50%. Student Achievement Goal 4: By the end of the 2021-2022 school year, the percentage of DRSS students earning an ACT Science College Readiness Benchmark Score of 23 or higher will increase by 50%

ii. What assumptions must be true for this outcome to be realized?

*Examples: early diagnosis and intervention are needed to support all children learning to read on grade level; project-based learning results in higher levels of student engagement and learning, etc.*

By end of 2021-22 school year: Goal 1: % of DRSS students completing ODE approved Career Pathways will increase to 20%. Underlying Assumption: IT, engineering, and mfg sciences will continue to be in-demand career fields for Dayton region. Rationale: Ohio Career Connections, OMJ, MCPE. Goal 2: % students earning industry-recognized credential will increase to 20%. Assumption: Industry credentials will enable students to join the workforce immediately following graduation and secure job Research Rationale: Ohio Career Connections, Ohio Means Jobs, MCPE. Goal 3: % of DRSS students earning scores achieving ACT Math College Readiness Benchmark Score of 22 or higher will increase by 50%. Underlying Assumption: ALEKS lab in IT Collaboration Ctr. Rationale: Math score predictor of college success. Goal 4: % students with scores achieving a ACT Science College Readiness Benchmark Score of 23 or higher will increase by 50%. Assumption: increased quality of PBL. Reseach: BIE, STEM Center.

iii. Describe any early efforts you have made to test these assumptions (pilot implementation, etc), or how these are well-supported by the literature.

The DRSS is one of the oldest and highest functioning state-designated STEM schools in Ohio. Since inception, it has been at the forefront of innovative education delivery strategies. In addition, it serves as an incubator for economic progress and education R&D, both as a STEM school and an Ohio STEM Learning Network (OSLN) training center site. Since being established as a STEM school, Wright State has continued to serve an active higher ed partner role in the school. Nearby Wright-Patt Air Force Base is a committed business/industry collaborator as well. These and many other DRSS partners and community stakeholders ensure that the school has adapted to address the workforce/economic needs of the Dayton region, especially with regard to meeting demand for interested, skilled, and qualified graduates in STEM fields. Within these academic and career disciplines, DRSS places great importance on utilizing hands-on and real-world problems/projects to demonstrate learning. As part of this project, DRSS will leverage \$250,000 that was allocated through the last capital budget cycle to Wright State University's Center for Mfg Sciences (CMS). CMS, under the leadership of Dr. Larry Dosser, will direct those funds to be used as originally intended for equipment and materials to outfit tDRSS with the state-of-the-art photonics, lasers, and engineering equipment. This equipment will provide students with hands-on experiences on actual devices being used within industry. The research indicates that there is a gap between employers' available engineering, I.T., and adv. mfg. jobs and state/region capacity to provide qualified graduates and candidates. According to the Nat'l Assoc. of Manufacturers, 88% of employers report significant gaps and barriers to finding skilled and qualified candidates for job vacancies. Learn to Earn reports, engineering-focused STEM disciplines and careers in Montgomery Co. are projected to grow exponentially by year 2025. This is due in large part to the proximity of Wright-Patt Air Force

Base and affiliated organizations/contractors. Specifically, aerospace R&D, aerospace mfg, and I.T. are projected to see nearly 15,000 more jobs in Dayton area; however, the region's education systems are not preparing MS/HS students with hands-on and applied skills to enter post-secondary training/education programs that ultimately will meet projected demand. According to "Dayton Metro Workforce Strategy Baseline Data" report (March 2016), workforce challenges in aerospace R&D, mfg. and I.T. are complex. While Ohio's colleges and universities are keeping pace with STEM workforce that is required in these industries, advanced manufacturing demands are outpacing training/education, which is further stressed by the replacement rates - retirements and other workforce churn. As a result, only 21% of these industries' professionals are under the age of 35, which means there will be a critical shortage of qualified workforce in the very near future. DRSS has been responsive to industry needs for students to demonstrate their applied learning, not just complete HS graduation requirements to show gained theoretical knowledge. As a result, DRSS is a competency-based education (CBE) pilot site (awarded FY16), recognized by the Ohio Department of Education as a leader for its mastery-based CBE model. Students graduate from DRSS with not only the requisite knowledge but also the skills and aptitudes to demonstrate the learning in a meaningful and measureable manner. In doing so, DRSS has demonstrated to the state and others that the school is not just churning out students that know the "theory" of the engineering design process but also can demonstrate how and why it is important and can be applied. In addition, during 2016-17 school year, DRSS plans to offer state-recognized CTE pathways in at least engineering and I.T. that result in students earning relevant hands-on experience and industry credentials before HS graduation.

iv. List the specific indicators that you will use to measure progress toward your desired outcome.

*These should be measurable changes, not merely the accomplishment of tasks. Example: Teachers will each implement one new project using new collaborative instructional skills, (indicates a change in the classroom) NOT; teachers will be trained in collaborative instruction (which may or may not result in change).*

Formative Indicators to measure progress # industry-recognized credentials earned # students participating in advanced manufacturing CTE courses # students participating in I.T. CTE courses % students graduating with industry-recognized credential % students graduating with ACT science score of 23 or greater % students graduating with ACT math score of 22 or greater Summative Indicators to measure progress % graduates with industry credentials increased to at least 20% (self-reported) % increase in # students graduating with ACT math score of 22 or greater Project budget is aligned with student impact, outcomes and lasting value and cost-savings is credible due to students receiving I.T. coursework /credentials. The sustainability costs are \$61,800/year and school will save approximately \$64,583/year by leveraging student I.T. interns to apply hands-on learning with real-world computer repair and maintenance. This extends device replacement schedule from 3 to 4 years.

v. List and describe pertinent data points that you will use to measure student achievement, providing baseline data to be used for future comparison.

# industry-recognized credentials earned by students prior to graduation (Baseline: 0 as of FY16); # students participating in advanced manufacturing CTE coursework (Baseline: 0 as of FY16); # students participating in I.T. CTE coursework (Baseline: 0 as of FY16); # teachers trained to integrate equipment and CTE coursework (Baseline: 0 as of FY16) # graduates with ACT science score of 23 or greater (Baseline 69% in FY16) # graduates with ACT math score of 22 or greater (Baseline: 72% in FY16) Program cost-savings per FIT, as a result of project implementation Students participating in the I.T. CTE coursework and ultimately earning an industry-recognized credential will deepen and apply their learning through hands-on and real-world opportunities as student I.T. interns. This will net the school an annual cost-savings of \$64,583 by extending the computer replacement schedule from 3 to 4 years.

vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?

A large majority of the project costs and assumptions are reliant upon one-time expenses to develop and establish the facilities, equipment, and infrastructure to enable DRSS to expand hands-on and applied learning offerings. Specifically, a significant amount of the requested funds will be utilized on construction and architect costs to prepare the school's facilities and infrastructure. This infrastructure and facilities build-out, along with the manufacturing sciences equipment provided through separate capital funding, will strengthen and deepen the school's capacity to provide relevant and real-world learning experiences for students. In doing so, DRSS will provide enhanced opportunities to engage community, business, and higher education partners in responding to the growing demand for interested, skilled, and qualified workforce in the fields of engineering, I.T. and advanced manufacturing. The project team will work with partners and the evaluation consultant to monitor the project's progress toward desired outcomes. The school is contracting with Dustin A. Pyles of Vaza Consulting, LLC to provide external evaluation consultancy with the school leadership to ensure the project meets and exceeds the desired project goals. The project team and Mr. Pyles will meet monthly during the grant year and quarterly during the sustainability years, to monitor and alter the project activities to ensure completion and goals attainment.

b. Spending reductions in the 5 year forecast

i. List the desired outcomes.

*Examples: lowered facility cost as a result of transition to more efficient systems of heating and lighting, etc.; or cost savings due to transition from textbook to digital resources for teaching.*

ii. What assumptions must be true for this outcome to be realized?

*Example: transition to "green energy" solutions produce financial efficiencies, etc.; or available digital resources are equivalent to or better than previously purchased textbooks.*

iii. Describe any early efforts you have made to test these assumptions (pilot implementation, etc), or how these are well-supported by the literature.

iv. Please enter the Net Cost Savings from your FIT.

v. List and describe the budget line items where spending reductions will occur.

vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?

c. Utilization of a greater share of resources in the classroom

i. List the desired outcomes.

*Example: change the ratio of leadership time spent in response to discipline issues to the time available for curricular leadership.*

ii. What assumptions must be true for this outcome to be realized?

*Examples: improvements to school and classroom climate will result in fewer disciplinary instances allowing leadership to devote more time to curricular oversight.*

iii. Describe any early efforts you have made to test these assumptions (pilot implementation, etc), or how these are well-supported by the literature.

iv. Please provide the most recent instructional spending percentage (from the annual Ohio School Report Card) and discuss any impact you anticipate as a result of this project.

*Note: this is the preferred indicator for this goal.*

v. List any additional indicators that you will use to monitor progress toward your desired outcome. Provide baseline data if available.

*These should be specific outcomes, not just the accomplishment of tasks. Example: fewer instances of playground fighting.*

vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?

d. Implementing a shared services delivery model

i. List the desired outcomes.

*Examples: increase in quality and quantity of employment applications to districts; greater efficiency in delivery of transportation services, etc.*

ii. What assumptions must be true for this outcome to be realized?

*Example: neighboring districts have overlapping needs in administrative areas that can be combined to create efficiencies.*

iii. Describe any early efforts you have made to test these assumptions (pilot implementation, data analysis etc), or how these are well-supported by the literature.

iv. List the specific indicators that you will use to monitor progress toward your desired outcomes.

*These should be measureable changes, not the accomplishment of tasks.*

*Example: consolidation of transportation services between two districts.*

v. List and describe pertinent data points that you will use to evaluate the success of your efforts, providing baseline data to be used for future comparison.

*Example: change in the number of school buses or miles travelled.*

vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?

10. Which of the following best describes the proposed project? - (Select one)

a. New - Never before implemented

b. Existing - Never implemented in your community school or school district but proven successful in other educational environments

c. Replication - Expansion or new implementation of a previous Straight A Project

d. Mixed Concept - Incorporates new and existing elements

### C) BUDGET AND SUSTAINABILITY

11. Financial Information: - All applicants must enter or upload the following supporting information. The information in these documents must correspond to your responses in questions 12-19.

a. Enter a project budget in CCIP (by clicking the link below)

[Enter Budget](#)

b. If applicable, upload the Consortium Budget Worksheet (by clicking the Upload Documents link below)

c. Upload the Financial Impact Table (by clicking the Upload Documents link below)

[Upload Documents](#)

*The project budget is entered directly in CCIP. For consortia, this project budget must reflect the information provided by the applicant in the Consortium Budget Worksheet. Directions for the Financial Impact Table are located on the first tab of the workbook. Applicants must submit one Financial Impact Table with each application. For consortium applications, please add additional sheets instead of submitting separate Financial Impact Tables.*

965,000.00 12. What is the amount of this grant request?

13. Provide a brief narrative explanation of the overall budget.

*Responses should provide a rationale and evidence for each of the budget items and associated costs outlined in the project budget. In no case should the total projected expenses in the budget narrative exceed the total project costs in the budget grid.*

A majority of the budget items are one-time expenses associated with construction and infrastructure enhancements and will be expended through Capital Outlay and related services. CAPITAL OUTLAY (\$850,000 total) including construction activities including the following estimated costs: Insurance (\$10,200); pre-construction fees, designs and preparation of facilities (\$33,150); professional construction administration, builder fees, FF&E and contingency (\$155,500); Abatement (\$8,800); General Trades and General conditions (\$173,750); Fireproofing (\$44,000); Drywall, painting and wallcovering (\$94,350); Flooring (\$31,150); updates to sprinkler systems (\$12,750); Plumbing (\$35,700); HVAC (\$131,000); Electrical updates (\$119,650). PURCHASED SERVICES (\$80,000 total) for external evaluation consultancy contract to support internal capacity to collection and report progress toward project goals and outcomes during the grant year and 5 sustainability years (\$10,000 in grant year and \$5,000/year thereafter); \$40,000 for initial school-wide teacher PD/training contract with Wright State University and other partners to provide appropriate technology/equipment and curriculum integration supports/training. GOVERNANCE/ADMIN. (\$35,000 total): budgeted for salaries (\$24,150) and benefits (\$10,850) for project management and fiscal oversight (4%) activities during the grant year only, to manage day-to-day project activities and fiscal reporting and will not be incurred during sustainability years due to a majority of the grant activities occurring during grant year (2016-2017).

14. Please provide an estimate of the total costs associated with maintaining this program through each of the five years following the initial grant implementation year (sustainability costs). This is the sum of expenditures from Section A of the Financial Impact Table.

61,800.00 a. Sustainability Year 1

61,800.00 b. Sustainability Year 2

61,800.00 c. Sustainability Year 3

61,800.00 d. Sustainability Year 4

61,800.00 e. Sustainability Year 5

15. Please provide a narrative explanation of sustainability costs.

*Sustainability costs include any ongoing spending related to the grant project after June 30, 2017. Examples of sustainability costs include annual professional development, staffing costs, equipment maintenance, and software license agreements. To every extent possible, rationale for the specific amounts given should be outlined. The costs outlined in this narrative section should be consistent and verified by the financial documentation submitted and explained in the Financial Impact Table. If the project does not have sustainability costs, applicants should explain why.*

Additional classrooms and labs as a result of this project will increase the school's square footage. As a result, additional custodial services will be required, resulting in an increase (\$16,800/year) in custodial purchased services. In addition, once initial teacher PD/training is received during the grant year, the school anticipates the deployment of a train-the-trainer model to build internal capacity to fully integrate and utilize equipment, curriculum, resources and instructional spaces in an innovative manner. However, the faculty will continue to require training, technical assistance and coaching (\$10,000/year) to sustain and maintain the lasting impact over the life of the project. This will be achieved through a purchased services contracts and in-kind supports through Wright State such as Dr. Dosser, Ms. Onuskanich, and Dr. Loughname as well as other providers to meet customized PD needs of the teachers, such as Tierney and Universal Technology Corporation's Mike Lander and Neal Ontko. As a direct result of the project, the additional classroom and lab space as well as technology and equipment being installed and utilized will show an increase of \$10,000/year to the school's projected gas/electricity expense, which will be sustained through the school's supplies and materials expenses. Although the manufacturing sciences equipment will be purchased through separate capital funding from the state, (\$250,000 value) the school will still be responsible for maintenance and supplies related to the equipment. In partnership with Wright State faculty and technical experts, approximately \$25,000 is budgeted in sustainability costs per year, related to ensuring the equipment is properly maintained and supplied to industry standards and specifications. The total sustainability costs will be \$309,000 (\$61,800/year) and will be covered entirely through cost-savings reductions as a direct result of the project implementation.

100 16. What percentage of these costs will be met through cost savings achieved through implementation of the program?

Total cost savings from section B of the Financial Impact Table divided by total sustainability cost from section A of the Financial Impact Table. If the calculated amount is greater than 100, enter 100 here.

17. Please explain how these cost savings will be derived from the program.

Applicants who selected spending reductions in the five-year forecast as a goal must identify those expected savings in questions 16 and 17. All spending reductions must be verifiable, permanent, and credible. Explanation of savings must be specific as to staff counts; salary/benefits; equipment costs, etc.

As a direct result of the project, DRSS will be equipping the school with the facilities, technology and infrastructure to provide students with hands-on and relevant I.T. career pathway coursework and credentialing through the I.T. Collaboration Center, in addition to the Center for Manufacturing and Engineering. Through the enhance career-technical education (CTE) pathway, which will increase the number of students/graduates earning an industry-recognized credential, the school will have students with skills and knowledge to provide appropriate hardware repairs, troubleshooting and other maintenance activities on existing DRSS computer and instructional devices. As a result, the school anticipates extending the usable lifespan of existing and future computer purchases through capital outlay, which will enable the school to alter the projected "refresh schedule" from three (3) to four (4) years per device. Within the FY2016 forecast, the school budgeted approximately \$114,583 for device refresh and this will be reduced to \$50,000/year as a result of the project with a direct projected cost-savings of \$64,583/year. This cost-savings will then be utilized for this project's sustainability costs. Total cost-savings realized is \$322,915, which exceeds the total sustainability costs of \$309,000 over the 5-year sustainability period.

0 18. What percentage of sustainability costs will be met through reallocation of savings from elsewhere in the general budget?

Total reallocation from section C of the Financial Impact Table divided by total sustainability cost from section A of the Financial Impact Table

Note: the responses to questions 16 and 18 must total 100%

19. Please explain the source of these reallocated funds.

Reallocation of funds implies that a reduction has been made elsewhere in the budget. Straight A encourages projects to determine up front what can be replaced in order to ensure the life of the innovative project.

Not applicable because 100% of sustainability costs will be absorbed by direct cost-savings as a result of the project implementation.

#### D) IMPLEMENTATION

20. Please provide a brief description of the team or individuals responsible for the implementation of this project, including other consortium members or partners.

This response should include a list of qualifications for the applicant and others associated with the grant. Please list key personnel only. If the application is for a consortium or a partnership, the lead should provide information on its ability to manage the grant in an effective and efficient manner. Include the partner/consortium members' qualifications, skills and experience with innovative project implementation and projects of similar scope.

Enter Implementation Team Key Personnel information by clicking the link below:

[Add Implementation Team](#)

For Questions 21-23 please describe each phase of your project including its timeline, and scope of work.

A complete response to these questions will demonstrate awareness of the context in which the project will be implemented and the time it will take to implement the project with fidelity. A strong plan for implementing, communicating and coordinating the project should be apparent, including coordination and communication in and amongst members of the consortium or partnership (if applicable). Not every specific action step need be included, but the outline of the major steps should demonstrate a thoughtful plan for achieving the goals of the project. The timeline should reflect significant and important milestones in an appropriate time frame.

21. Planning

a. Date Range August 2016-September 2016

b. Scope of activities - include all specific completion benchmarks.

Upon Award: (August/September 2016) notify project team, media releases, DRSS board/approvals of RFP/bid specifications, project team and partners are convened to outline the project schedule in greater detail. Create a schedule for project team and partners to meet regularly during the grant implementation year, to ensure that all outcomes are achieved. September: Create a plan of action, partnership agreements/contracts, determine points of contact for facets of the project, equipment/facility installation needs inventory and reassurance that facility and electrical needs are sufficient for purchased equipment, award construction contract, work with construction vendors to finalize timeline and benchmarks, work with equipment vendors to identify order & delivery schedules, submit final evaluation plan to ODE, setup quarterly evaluation benchmarks & schedule to demonstrate successful installation of equipment and related services within specified timeline. Board contracts are completely approved for equipment purchases and installation and all other purchased services related to the grant. Communication plan/key stakeholder engagement & consent from all required leaders & partners. The project leadership & partner team will coordinate outcomes tracking, to ensure communication and capacity to manage scope of work.

22. Implementation(grant funded start-up activities)

a. Date Range October 2016-June 2017

b. Scope of activities - include all specific completion benchmarks

Oct-Dec. 2016: Project team meets monthly, construction/renovation of purposed spaces begins and equipment is ordered/delivered; DRSS

teachers and staff begin to participate in intensive teacher PD/training on equipment and integration of devices into curriculum, in partnership with Wright State University, Lunarline and Universal Technology Corporation, when appropriate; evaluation team meets regularly with project team and begins data collection and information gathering. Project team and evaluation team communicate with appropriate internal/external stakeholders on the progress of the project toward desired outcomes. Jan.-June 2017: Project team continues to meet monthly, including the evaluation team when appropriate; construction/renovation is completed and all equipment is fully installed and ready for instructional use. Depending on installation date, some equipment and technology may be ready for instruction, but likely contingent upon delivery of technical assistance, supports and teacher PD/training. Partners from Wright State, Lunarline and Universal Corporation continue to work with identified teachers and school personnel related to providing technical assistance and supports; PD/training is delivered and teachers have opportunity to work with equipment prior to introducing concepts within their respective classrooms; Project and evaluation teams report progress and benchmarks to ODE in accordance with the evaluation and compliance plans. DRSS will host a media/community/business/partner/student engagement event once construction is complete and equipment is fully installed and operational. Communication plan includes intensive media release/communication chronicle progress of project during the implementation year and beyond. The DRSS Board of Trustees will provide a full report on the project (June 2017).

23. Programmatic Sustainability (years following implementation, including institutionalization of program, evaluation and communication of program outcomes)

a. Date Range July 2017-June 2022

b. Scope of activities - include all specific completion benchmarks

During the grant year, the DRSS teachers and staff will be provided extensive training and PD related to the equipment and integration of I.T., advanced manufacturing and engineering throughout the school's competency-based curriculum. The construction will be completed and initial technical assistance and PD completed with all or a majority of the DRSS staff. July 2017-June 2018: DRSS teachers will begin/continue to implement PBL strategies utilizing the CTE/STEM curriculum and equipment within the renovated space(s), with a particular emphasis on providing hands-on and relevant student learning experiences with authentic and real-world partners provided in partnership with Lunarline, WSU, UTC, and others. The project team will meet quarterly with the evaluation team and partners to ensure appropriate data and information collection is conducted and reported in accordance with the parameters laid out by ODE and the Straight A Governing Board. When/if appropriate, these meetings will inform and project implementation adjustments or modifications that will be made to ensure outcomes are realized. Evaluation team will continue to track and gather data related to the stated desired outcomes using the identified data points and measures. July 2018-June 2022: Starting in Aug. 2018, the project team will meet bi-annually with eval team and partners and sustaining teacher PD will be conducted to ensure fidelity of implementation and sustainability of the project. Annual maintenance and supplies will be purchased using cost-savings realized as a direct result of the project. Students will start/continue to utilize I.T. coursework and credentials to apply their learning through repair and maintenance of technology and devices throughout the school. Project team will provide an annual report to the DRSS board on the progress towards project outcomes and benchmarks. DRSS will host annual showcase events with stakeholders, to communicate the success of the project.

## E) SUBSTANTIAL IMPACT AND LASTING VALUE

24. Describe the expected changes to the instructional and/or organizational practices in your institution.

*The response should illustrate the critical instructional and/or organizational changes that will result from implementation of the grant and the impact of these changes. These changes can include permanent changes to current district processes, new processes that will be incorporated or the removal of redundant processes. The response may also outline the expected change in behaviors of individuals (changes to classroom practice, collaboration across district boundaries, changes to a typical work day for specific staff members, etc.). The expected changes should be realistic and significant in moving the institution forward.*

Please enter your response below:

The creation of the Center for STEM Career Dev. will enable DRSS to provide additional hands-on, authentic learning experiences. The IT Collaboration Center will change the way that computer science is taught by allowing for more group, collaborative work experiences. Teams of students will share knowledge in this state-of-the-art space as they learn the content. The space will allow for expansion of the IT curriculum, which will begin in the 6th grade with program offerings in every grade through graduation. In high school the students will have the opportunity to earn industry credentials in IT making them highly valued by the reg. workforce. The CMEES will also increase opportunities to engage in authentic learning experiences. The equipment will expand the scope and amount of industry inspired projects designed collaboratively between the teachers and the partners. Students will be exposed to career options in these fields and will be able to make well-informed career and college plans. This will result in less major changes and increased job satisfaction for these future STEM professionals. Industry credentials will also be offered to students studying engineering and manufacturing sciences. In order to accomplish the goals of the Center for STEM Career Dev., PD will be needed in the areas of PBL, IT, Engineering, and the use of the equipment. MS/HS teachers will need to enhance their skills in project development, CS, eng, additive and subtractive mfg. Due to the cross-curricular integration that occurs at the school, teacher of all disciplines will need to be familiar with these areas of foci. As a competency-based education pilot school, among other ways, the school's IT curriculum will include CTE pathway courses such as hardware classes where students will learn and apply their learning to repair and maintain the school computers. This allows DRSS to move from 3 to 4-year replacement plan leading to sustained cost savings.

25. Please provide the name and contact information for the person and/or organization who will oversee the evaluation of this project.

*Projects may be evaluated either internally or externally. However, evaluation must be ongoing throughout the entire period of sustainability and have the capacity to provide the Ohio Department of Education with clear metrics related to each selected goal.*

Please enter your response below:

Dustin A. Pyles - CEO/Managing Consultant, Vaza Consulting, LLC (dustin@vazaconsulting.com)

26. Describe the overall plan for evaluation, including plans for data collection, underlying research rationale, measurement timelines and methods of analysis.

*This plan should include the methodology for measuring all of the project outcomes. Applicants should make sure to outline quantitative approaches to assess progress and measure the overall impact of the project proposal. The response should provide a clear outline of the methods, process, timelines and data requirements for the final analysis of the project's progress, success or shortfall. The applicant should provide information on how the lessons learned from the project can and will be shared with other education providers in Ohio. Note: A complete and comprehensive version of the evaluation plan must be submitted to ODE by all selected projects.*

A developmental evaluation plan (Patton, 2016) for the DRSS Center for STEM Career Development project includes gathering evidence regarding progress towards the stated objectives as well as being cognizant of real-time emerging and unintended outcomes that impact the overall project. As described in this proposal, the evaluator will work collaboratively with key stakeholders to generate real-time feedback and synthesize lessons learned to contribute to meeting the stated outcomes and to guide further program development. The methodology is described as concurrent triangulation multi-level mixed methods (Creswell & Plano Clark, 2016), with the quantitative and qualitative data collected concurrently each year of the project to document progress towards stated and real-time emerging outcomes. Multi-level is appropriate because the project includes a change in the overall (level 1) system (DRSS) and the subsequent level 2 changes at the teacher and partnership level and the ensuing level 3 impact on students. The qualitative and quantitative data are given equal weight in the synthesis process. All data will be de-identified with the evaluator having the translation for human subject identifiers. The evaluator will participate in the regular project team meetings, identify any emerging outcomes not predicted in the proposal, and issue an annual report of progress towards meeting the project goals and objectives. Types of data to be collected include: 1) improved infrastructure and innovative center construction data (Level 1) drawing from the following specific data: Records of purchases and contracts (Quant.), Minutes from regular team meetings (Qual.), Observation data (Qual.); 2) Grade 6-12 teacher data (Level 2) drawing from: Professional Development participation (Quant.), Curriculum Development participation (Quant.), Frequency/content associated with center (Quant.), Observation data (Qual.), Interview data (Qual.); and 3) Partner and Stakeholder data (Level 2) including: Collaboration in planning, implementation and assessments (Quant.), Observation data (Qual.), Interview data (Qual.); 4) Grade 6-12 student data (Level 3): Student access to the innovation centers (Quant.), Students completing IT courses (Quant.), Students completing Manufacturing courses (Quant.), STEM certificates earned (Quant.), IT interns within DRSS (Quant.), ACT scores (Quant.), GPAs (Quant.), Graduation rate (Quant.), Post Program measures (Quant.), Observation data (Qual.), and Interview data (Qual.). The project evaluation plan logic model comprises five elements: inputs, activities, outputs, and strategic impacts. The inputs include the Straight A funding, WSU support, DRSS funding, staff, and partners. The formal logic model for the project will be submitted to ODE within the evaluation plan, if awarded. The strategic impacts are threefold: 1. Documentation of the project will articulate lessons learned and practical issues noted with adding STEM Career centers to middle and high school curricula. 2. Documentation will describe the benefits of working collaboratively with partners in STEM Career Centers. 3. Documentation will provide evidence of STEM Career Centers contributing to regional workforce predictions.

27. Please describe the likelihood that this project, if successful, can be scaled-up, expanded and/or replicated. Include a description of potential replications both within the district or collaborative group, as well as an estimation of the probability that this solution will prove useful to others. Discuss the possibility of publications, etc., to make others aware of what has been learned in this project.

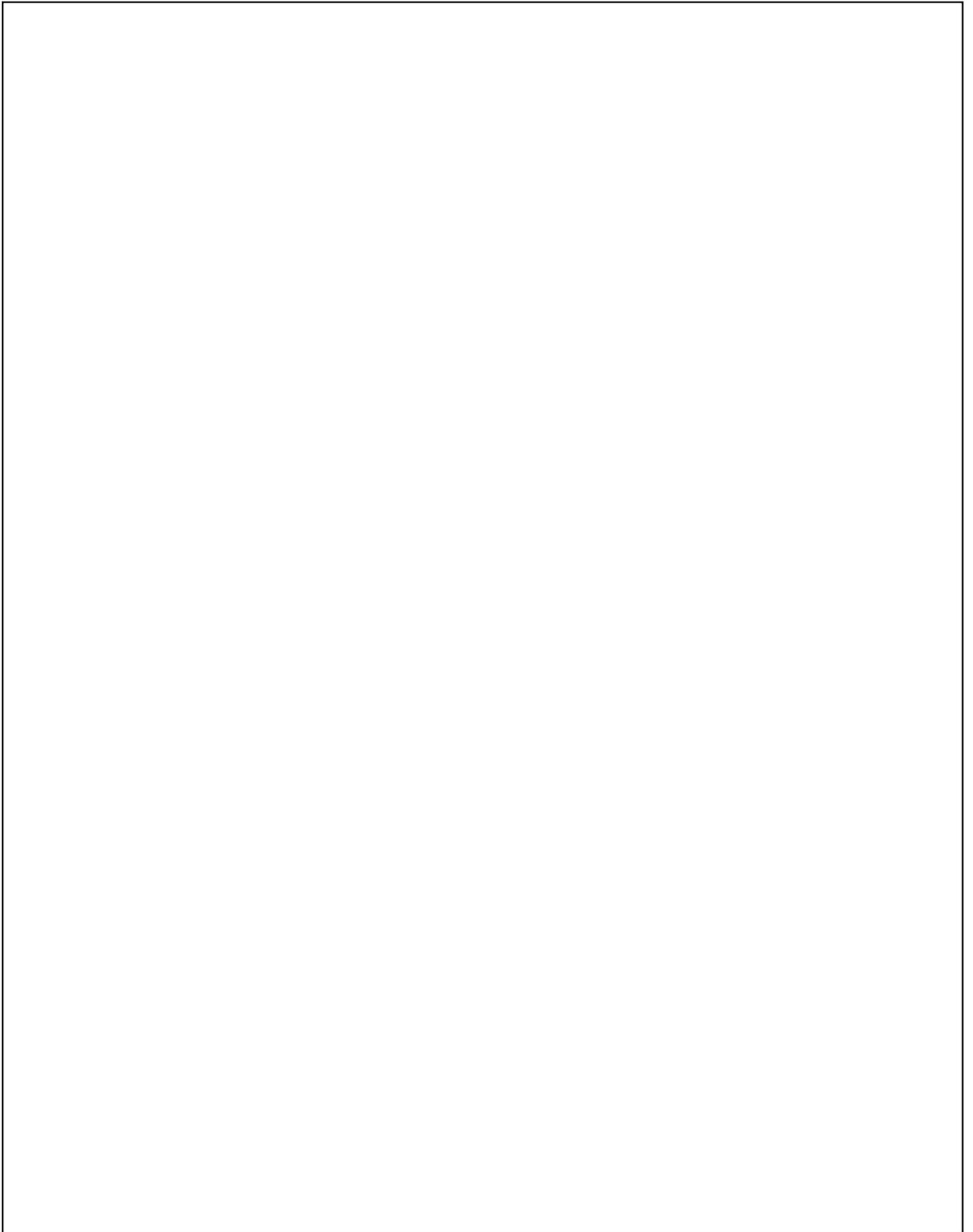
*The response should provide an explanation of the time and effort it would take to implement the project in another district, as well as any plans to share lessons learned with other districts. To every extent possible, applicants should outline how this project can become part of a model so that other districts across the state can take advantage of the learnings from this proposed innovative project. If there is a plan to increase the scale and scope of the project within the district or consortium, it should be noted here.*

There is a very high likelihood that the project can be replicated, scaled-up and/or expanded. The Dayton Regional STEM School (DRSS) is one of the oldest and high-functioning state-designated STEM Schools in Ohio, and as such is required and compelled to be a demonstration site for innovative teaching and learning as well as educational R&D. Since inception, the school has been at the forefront of education innovation, both as a STEM school. As such, DRSS is a member of the Ohio STEM Learning Network (OSLN), which boost nearly 40 STEM schools and also serves as an OSLN regional STEM training center sites. In this capacity, DRSS serves as an incubator for effective teacher training/PD and early adoption of cutting-edge instructional strategies. One such opportunity has been DRSS being recognized by the state as one of the state's competency-based education (CBE) pilot sites (December 2015), which has been a catalyst for DRSS spreading and demonstrating of how mastery-based learning can work within a CBE learning environment. Other schools and groups of educators from across the country are already coming to visit. The DRSS Center for STEM Development will further the school's mission to be an education R&D and demonstration site, as well as enabling DRSS to perfect teaching and learning strategies using the equipment/devices and then train other educators. This grant will enable DRSS to increase the CTE course offerings and will provide innovative spaces where high tech, hands-on tools and equipment can be accessed by the entire student body. The level of project-based instruction will therefore increase, and the opportunities for business and industry partnerships will grow through use of the space. DRSS will collaborate with others schools and partners in the region and state to provide a hub for innovation. The project team and leaders plan to present the results, processes and impact of the project at numerous regional, statewide and national conferences.

By virtue of applying for the Straight A Fund, all applicants agree to participate in the overall evaluation of the Straight A Fund for the duration of the evaluation time frame. The Governing Board of the Straight A Fund reserves the right to conduct an evaluation of the project and request additional information in the form of data, surveys, interviews, focus groups and other related data on behalf of the General Assembly, Governor and other interested parties for an overall evaluation of the Straight A Fund.

PROGRAM ASSURANCES: I agree, on behalf of this applicant, and any or all identified consortium members or partners, that all supporting documents contain information approved by a relevant executive board or its equivalent and to abide by all assurances outlined in the Straight A Assurances (available in the document library section of the CCIP).

Robin Fisher - Superintendent/CAO - Dayton Regional STEM School; 5/52016



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**Consortium Contacts**

No consortium contacts added yet. Please add a new consortium contact using the form below.

## Partnerships

Dayton Regional STEM School (011506) - Montgomery County - 2017 - Straight A Fund - Rev 0 - Straight A Fund

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## Partnerships

First Name	Last Name	Telephone Number	Email Address	Organization Name	IRN	Address	Delete Contact
Dr. Larry	Dosser	937-775-3296	larry.dosser@wright.edu	Wright State University	063123	3640 Colonel Glenn Hwy, Dayton, OH, 45435-0001	
Dr. Suzanne	Franco	937-775-3673	suzanne.franco@wright.edu	Wright State University	063123	3640 Colonel Glenn Hwy, Dayton, OH, 45435-0001	
Mike	Lander	937-426-8530	mlander@utcd Dayton.com	Universal Technology Corporation		1270 North Fairfield Road , , Dayton, OH, 45432	
Dr. Greg	Loughnane	937-469-1678	gregory.loughnane@wright.edu	Wright State University	063123	3640 Colonel Glenn Hwy, Dayton, OH, 45435-0001	
Neal	Oniko	937-426-8530	nontko@utcd Dayton.com	Universal Technology Corporation		1270 North Fairfield Road, , Dayton, OH, 45432	
Rebecca	Onuskanich	(937) 426-8530	rebecca.onuskanich@lunarline.com	Lunarline		1900 Founders Drive, Suite 101 , , Kettering , OH , 45420	
Dustin A.	Pyles	6148595413	dustin@vazaconsulting.com	Vaza Consulting, LLC		2327 Village at Bexley Drive, , Columbus, OH, 43209	

Implementation Team

Dayton Regional STEM School (011506) - Montgomery County - 2017 - Straight A Fund - Rev 0 - Straight A Fund

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**Implementation Team**

First Name	Last Name	Title	Responsibilities	Qualifications	Prior Relevant Experience	Education	% of Project
Rebecca	Onuskanich	Director, Lunarline School of Cybersecurity	Technical advice and subject matter expertise in IT, Computer Science, and Cyber Security.	Rebecca is responsible for ensuring that Lunarline's School of Cybersecurity provides top-notch and relevant cybersecurity training and education to the students. This includes directing and shaping the curricula and teaching processes. Rebecca also works with educational committees and advisory groups within the community to come up with the most appropriate curricula to meet the needs of the students and community.	Certified Information Systems Security Professional (CISSP), Certified Authorization Professional (CAP), and MBA. Eighteen years experience in cybersecurity. Adjunct faculty at Sinclair Community College. Volunteer for Warrior to Cyber Warrior (W2CW) program as an instructor, mentor, and curriculum developer.	BA Psychology; MBA; Committee on National Security Systems (CNSS) 4011, 4012, 4015	25
Tiffany	Hiser	Treasurer, OPTedge, LLC - Team of Financial Support	Financial planning and processing, reporting and contracts management in collaboration with project team and building leadership.	Licensed Treasurer with the State of Ohio and Partner of OPTedge LLC	Partner and team with more than 75 years of combined experience in the public and private sectors.	The University of Findlay, Technology Management/Marketing	10
Dr. Larry	Dosser	Senior Fellow for Technology Advancement - Wright State University, Center for Manufacturing Science	Subject matter expertise in manufacturing sciences, laser technology, and photonics, as well as technical advice for the equipment necessary in the Manufacturing & Engineering Sciences Lab within DRSS's Center for STEM Career Readiness.	Dr. Larry R. Dosser is the Senior Fellow for Technology Advancement for the new Wright State University Center for Manufacturing Sciences. He builds on the rich history of manufacturing in Ohio by creating an exciting environment focusing on knowledge-based manufacturing and best practices, enabling students and manufacturers to connect through co-op and internship programs, as well as web-based	Dr. Dosser is the Founder and Chairman Emeritus of Mound Laser & Photonics Center, Inc., which he started in 1995. The company was acquired by Resonetics in 2015. The company uses lasers to fashion miniature devices for the defense and medical device industries. From 1980 to 1995, Dr. Dosser worked at Mound Laboratory in Miamisburg, Ohio, where he used laser technology to study various aspects of energetic materials ranging from laser-induced fluorescence spectroscopy to high-	B.S. in Chemistry & M.S. in Phy. Chemistry, Michigan State Univ.; Ph.D. in Phy.Chem., Univ. of Arkansas.	25

				interactions.	speed photography. He is an active member of several educational and commercial development boards and works to promote STEM education and enhance the collaboration between defense, commercial, and educational institutions. These activities include: Board member of the Dayton Regional STEM School Member of the NSF National Visiting Committee for OP-TEC, the National Center for Optics and Photonics Education Co-PI on the NSF program for the Midwest Photonics Education Center Board of Directors of the Laser Institute of America Executive Committee of the Laser Institute of America Collaborator with the AFRL Small Business Hub Taskforce on Education and Workforce Development for the National Photonics Initiative		
Robin	Fisher	Superintendent/CAO - Dayton Regional STEM School	Manage implementation of the Straight A grant; Ensure that fiscal and program data is submitted to the state; Collect data to measure program impact and report to the state.	Prior experience with facility remodeling, curriculum development, personnel management and strategic planning	2 years as Superintendent/CAO of Dayton Regional STEM School; former Assistant Principal and Director of Counseling of Dayton Regional STEM School	Bachelor's Degree in Microbiology; 2 Master's degrees - MS and MEd.; Current doctoral student in organizational leadership	20
Hope	Strickland	Principal, Dayton Regional STEM School	Coordinate curriculum aligned to the needs of the Dayton STEM workforce, assess impact of program on student achievement, optimize program resources for increasing DRSS Math ACT and PSAT scores, align program to Ohio's Career Connection Framework and	Physics research background (plasma, optics, nanotechnology), former Tech Prep Physics teacher and Community College Physics Instructor, experience in curriculum development and alignment, former Science Instructional Specialist (facilitated best teaching practices, developed district periodic assessments, analyzed student achievement results), former head of	2 years as the Principal of the Dayton Regional STEM School, former Assistant Principal of the Dayton Regional STEM School, 19 years as a high school Physics teacher, 4 years as a college Physics instructor, 1 year as a Science Instructional Specialist,	B.S., Ed in Physics (Chemistry minor); M.A.T. in Physics, M.S., Ed in School Leadership, Current doctoral student in organizational leadership	25

			STEM Career Pathways, develop mechanisms for completion of STEM career credentials and certifications by DRSS students.	school improvement team and member of district improvement team (data driven decision making and CCIP), strategic planning experience.			
Dustin A.	Pyles	CEO/Managing Consultant - Vaza Consulting, LLC	Mr. Pyles, as CEO/Managing Consultant of Vaza Consulting, LLC, he will serve as the external evaluator for the project and will meet regularly with the project team to review data/information collection, and modify project activities accordingly. He will track and monitor student achievement data and outcomes, as specified within the grant. He will serve as a member of the project leadership team and provide project reporting and compliance supports, in accordance with grant guidelines.	Mr. Pyles has significant experience in public administration, state education policy, legislation, grant-writing, program evaluation, state performance/financial auditing, project management, grants management, contracts management, research, advocacy, relationship management, education professional development, and STEM school design/start-up and state-designation. He is managing one of five Ohio Competency-Based Education (CBE) pilot grants, which includes Bio-Med Science Academy. While Director of Operations of the Ohio STEM Learning Network (OSLN), he managed the waiver from state assessments process for all Ohio STEM schools. While with OSLN, he managed the nearly \$6 million Ohio Race to the Top (RTTT) P2/STEM application area, which helped equip and establish nine (9) schools, including DRSS, to be regional STEM training center sites across the state.	Mr. Pyles began his career in Performance Audit Section of the Ohio Auditor of State's office, on the team that conducted the Ohio Medicaid Program audit that yielded recommendations that, if fully implemented, would save Ohio more than \$300 million. In this role, he also conducted performance/compliance audits of Ohio school districts and state agencies, reviewing financial indicators and operations for opportunities for efficiencies and cost-savings. He also has served in support and program management roles at the Ohio Dept of Education, Ohio Historical Society and Tri-Rivers Educational Computer Association (TRECA)/TRECA Digital Academy. Most recently, he served as the Director of Operations for Ohio STEM Learning Network (OSLN), where he was instrumental in tracking program data/information that led to proliferation of STEM education throughout Ohio. In this role, he was the program manager for the Ohio Race to the Top (RTTT) P2/STEM Application Area (\$6 million), which involved equipping and establishing STEM schools as training center sites to provide STEM-related teacher PD/training throughout Ohio. He was responsible for monitoring, tracking and reporting to the Ohio and U.S. Departments of Education on progress of the project against stated deliverables/benchmarks.	MPA/MBA - Public Administration. (DeVry University); B.A.- Public Adm., Political Science and Management - HR (Minor) (Capital University)	10

					<p>In addition, he was instrumental in the launch and sustaining of the Bill &amp; Melinda Gates Foundation-supported College Ready Tools deployment in OH, TN, TX and other states, leveraging the network as a training and spread mechanism. This led to add'l investments by the Ohio Dept of Education in the amount of \$725,000 to support the spread of the tools through the Ohio High Schools That Work (HSTW) network. His major contribution to education within Ohio has been through leveraging the network of high-functioning STEM schools to assist other educators in designing and launching add'l schools in OH, TN and others states. He helped grow the network from 10 to almost 40 STEM schools today.</p>		
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