Henry Ford Community College
Technology Investment Fund
Project Funding Request

This application form with original signatures must be received by the Vice President/Controller's office by 4:00 p.m. on either **the first Friday after Labor Day** (Fall semester) **or the third Friday in January** (Winter semester) in order to be eligible for funding. Applications will only be accepted on this form. Applications must include an Executive Summary which will be shared with the Campus Community. ***(Attach additional sheets for any section needed.)***

Date of Application: 1/18/2013	**Project Type: [x] New [ ] Upgrade/Expansion**	
Project Director: Kris Young **Department/Division: Automotive Technology/Technology Division**	**How many students will *directly* benefit from the project?** Approx. 700 (All of the Auto and ASSET Students)	**Total TIF Funds Requested:** $23,363

Problem Statement	
Define the problem/idea. *(What do you want to do? Why?)*	The current problem is availability of viewing space in the main Auto Lab (T-152). When we are teaching the operation of electronic systems and sensors, all of the students must crowd around a small scan tool or laptop screen. This becomes an issue when you are attempting to demonstrate something like sensor voltage values while an engine is running to a class of up to 24 students. All 24 students having a meaningful learning experience becomes difficult. Similarly, if we are performing repairs during a class, the students must look at a laptop screen to read the procedures and look at illustrations or diagrams. What I would like to do is mount television screens around the main Auto Lab. Each one of these television screens will have a dropbox at bench level and would have several inputs to the television. The screens would also be connected together to one master station, so that we can display the same thing on all of the screens at the same time. The main thing that this will eliminate is crowding around scan tool screens and it will give us the ability to display more than just the scan tool data. We can display service publications, wiring diagrams, and we can also hook up a document camera to display small components inside the vehicle or under the hood. Ultimately, this results in more productive lab time and better student learning experiences.
Evidence for Project Validity *(What is the current situation?)*	
What resources do you have/use now?	We only have the scan tools and laptop computers.
Why can't you use your existing resources to do this project?	Because our department is so small it would require approximately 2/3 of our entire budget.
What evidence do you have that this project will be successful? *(Cite specific information.)* • **Current research** • **Examples from other schools or teachers** • **Letters of support from experts in the**	I have found no evidence of any community college or university automotive programs that have a similar system. In my own experience (as a student, Senior Master Technician, and an instructor) I believe the system will be very helpful to the student's learning, and the efficiency of the instruction.

field • Your own past experience.	
	Our automotive advisory board was briefed on our proposal at the last meeting. Our board is comprised of Auto manufacturer's training and corporate technical assistance departments, tier-one suppliers of engineering and testing, and dealer service personnel. All agreed that any means to help a student become comfortable using and reading diagnostic tooling would greatly benefit the employer not having to do remedial training on scan tools. The student will have a greater familiarity with tool usage and computer operating modes prior to reporting for work. (Meeting Minutes from Fall 2012 Auto Tech Advisory Committee meeting can be submitted for evidence.)

Relevance to Technology Investment Committee Guidelines *(Address only those that apply.)*	
INNOVATION: **Is the proposal innovative to the field of Instructional Technology?**	Yes, this program is innovative to the field of instructional technology in an automotive program.
Is the proposal innovative to HFCC?	There is a similar system in use by the Architecture and Construction department in one of their labs. It is used for blueprint reading, and group displays.
Is the proposal innovative to the specific discipline?	It is very innovative to the specific discipline, there are no other competing schools that have a similar system in an Automotive Technology program.
NEED: **Is the proposal essential for the instructional design?**	Yes, this is essential for the instructional design because of the small size of the scan tool screens. They are not of sufficient size to accommodate more than one or two people at a time.
Does it create new programs or courses with the potential for increased student enrollment?	It does not create a new program, but it greatly enhances the courses that we teach. It can be used by all of the automotive classes, and has the potential to increase enrollment once the students see the technology in use in the lab.
Is it necessary to remain competitive with post-secondary institutions?	Yes, this technology will keep us ahead of the rest of the institutions in Southeast Michigan.

Does it provide skills that are transferable to the workplace?	The more familiar the student is with scan tools, meters, and the theory of Electronic Control Unit (ECU) operation the more marketable they become to potential employers. The better their ability to see and hear the activity the better the learning potential.
Does it prepare students for transfer to upper-level curriculum?	The more familiar a student is with diagnosing electrical components, the easier the material becomes when transferring to a class that requires the student to use meters, scopes, and scan tools. As the student becomes more familiar / comfortable with the tools they learn how the tooling may be applied to other sub-systems of the vehicle.

Relevance to Technology Investment Committee Guidelines (continued) *(Address only those that apply.)*	
Does it keep the course or program current in the related technology?	Scan tool operation, the tools themselves, the monitors (programs) the computers are running is constantly evolving. The ability to use and see the diagnostic tools and procedures in itself will keep the courses relevant. These monitors will augment the changes to the industry by the ability to show more students the evolving technology of the vehicles.
NATURE OF PROPOSAL: **Is the proposal a component of curricular revision?**	It is mainly to support our capstone classes, but will also benefit the entire automotive program.
Is it the next logical step in the evolution of the course/curriculum?	Yes, because being able to analyze data from the electrical systems on the vehicle is key to every aspect of vehicle repair. Student's ability to view this data on a large display will increase their comprehension. Currently, unless we take the time to pass the scan tool around every student, it is difficult to make sure that everyone understands what's going on while we're looking at the small screen.
Will it help attract students to HFCC?	Yes, because we will be the only automotive program in the area that has the system.
Will it support HFCC community outreach/public relations activities?	We hold the South East Michigan Automotive Teacher's Association Meeting in T-152, as well as Open House, and Advisory Committee Meetings. The screens would allow us to display program and course specific information for people to view while they were in our lab.

Will it support student retention activities at HFCC?	If a student feels involved in the classroom and lab activities they are more likely to participate and want to take that next class.
Will it become an integral part of the course, program or curriculum?	Yes, it will become an integral part of all courses in the program.

Resources	
Where will the project hardware be installed?	On the walls in T-152.
Who will do the job? • **List the personnel** • **List their duties**	Henk A/V (Personnel and duties supplied by Henk A/V) They will supply the equipment according to the proposal, install the equipment, and provide training to the Automotive Technology Department on how to use the system once installed.
Who will use the hardware?	Students and instructors.
Who will conduct any necessary project-hardware training?	Henk A/V
Who will handle any spring and summer semester duties related to hardware installation?	Kris Young/David Tillman
Do you have commitment from your administration for personnel support? *(Be specific, include documentation.)*	N/A

Is release time required to complete this project? **If yes, has it been approved at this time by your Associate Dean?**	**[ ] Yes [x] No** **[ ] Yes [ ] No**	*TIF does not fund release time. If you are requesting release time, it must be approved by the appropriate administrators prior to proposal submission.*

Evaluation *(How will you know if it worked?)*	
How will you demonstrate to the college that this was an effective use of funds? *(How will you evaluate the goals listed as Expected Outcomes?)*	Through a program wide survey of students with direct contact/use of the system, and a check of student GPAs before and after the system is installed.
How will you determine the success or shortcomings of the project?	Through a student feedback survey about their experiences regarding their ability to interact with and observe data and activities that was not previously possible working in groups. Access to service publications and information will also be part of the survey.
Budget **(You must also include an itemized budget statement.)**	
What do you need to complete this project? *(Be specific about equipment, software, and training.)*	We will need five large monitors, wall mounting equipment, cabling, a high-quality document camera, a cart (for one mobile station), and sound equipment (speakers, microphone, and an amplifier).
What is the TOTAL COST? *(You must attach an itemized cost analysis with this proposal.)*	$23,363

How recent is your quote?	11/2012
Are changes to the college infrastructure necessary to support this project?	**[ ] Yes [x] No** *If "yes" provide an explanation from the Directors of Data & Voice and Buildings & Grounds, and from the Administrator in charge of the affected room(s).*
What other monetary commitments exist? *(Department/Division/ External) Please be specific; include documentation wherever possible.*	None
If other sources of funding are not available, why? • **Doesn't have the support?** • **Not viewed as feasible?** • **Not a priority?** • **Other?**	We have the support, it is feasible, but we lack the funds to cover a project like this.

Strategic Plan

Include with your application a document that indicates the ways in which your project addresses the goals and objectives of the Henry Ford Community College Strategic Plan. Also, indicate how your project addresses your Division or Department plan. Be as specific as possible.

If your proposal is Non-Instructional (Library Services, Learning Lab, Counseling, Placement Services), please skip this section and complete the information in the Non-Instructional section.

Instructional Proposals

Complete this section if this is an Instructional Proposal, directly impacting student teaching and learning.

Expected Outcomes *(Project Objectives)*	
What is your current teaching method? How will this project fit into your current plan?	This proposal was brought before our advisory council. Our advisors agreed that students would benefit from additional time viewing and using scan tools and meters. The ability to show a single event and debrief the event to the class would enhance the learning and understanding. When demonstrating a tool, procedure or running a monitor I must break students into small groups and one at a time set up the vehicle and walk each group through the procedure. With the ability to use visuals each group can demonstrate the activity or procedure to the entire class one at a time. This will maximize the time for the lab, minimize setup, and the class will see the same things and hear the same message with regard to the activity / "bug". This will enhance the student lab experience by subjecting them to more diagnostic routines on a wider variety of vehicles / systems. By using visual monitors with instructor control, labs become an instructor led demonstration. The student does the work with the vehicle and scan tools, the instructor debriefs the activity while the class participates, one vehicle / group at time.
How will this improve student learning? *(List specific goals.)*	When covering a lab activity involving a scan tool / meter / scope, I must stop other groups, bring them over to the vehicle and almost one on one explain the problem and what they are looking at / for to aid in understanding a system failure or scan too reading. The ability to "break in" to their workstations with the chosen feed will facilitate imparting the lesson or symptom to the entire group, everyone would be able to see better and get the same message as opposed to 20 plus people trying to look over a shoulder, under the hood of a vehicle while trying to see what the instructor is talking about.

Instructional Proposals (continued)

State how the project addresses the Seven Principles of Good Practice in Undergraduate Education. *(Address only the relevant criteria.)*	
Supports student-faculty contact	The student acts as the instructor's lab assistant, following instructions setting up the lab / demonstration, the class sees the cause and effect of the actions. Instructor is freed up to demo the procedure and field questions in regard to the activity.
Supports cooperation among students	Students will do group projects on their vehicle and present the readings to the class in real time, each group could conceivably be working on systems that are different, yet yield the same type information, (each manufacture does essentially the same things, yet in entirely different ways), and students could show each other the differences. One group feeding their information to the class.
Supports active learning	More people seeing what is happening equals more discussion, questions and involvement.
Supports prompt feedback	As the class is watching a group demo, the instructor is freed up to lecture on the activity reinforcing the learning goal of the activity. Safety, procedures, results can be discussed while the activity is running; all students are seeing and hearing the same things.
Supports time on task	Less prep time, less time moving vehicle to vehicle to demo equals more time for lab and discussion.
Supports high expectations	All students want to learn the latest technology, unfortunately we are limited with tooling, vehicle, space for everyone to try each activity each time. We must balance our assets to ensure that each student gets the information and a chance to learn the tooling, even though they may not be pressing the buttons each time a student sees the activity, gets the message and can apply what they have seen when it is their turn to use the equipment.
Supports diverse talents and ways of learning	This will augment the learning experience by allowing the students "in the back" to see what is happening, allowing them to be part of each activity, and use what they have seen when they get their hands on the tools.

SIGNATURES:

**Project Director	1-15-13 Date	*Associate Dean/Department Head	01/15/2013 Date	*Vice President	1/14/13 Date
**Director of Building & Grounds	1/15/13 Date	**Director of Data & Voice	1/16/2012 Date		

* For notification purposes only
* * For project feasibility

Non-Instructional Proposals

Complete this section if this is a Non-Instructional Proposal, related to college areas that serve and support student instructional progress. ***(Non-Instructional areas include Library Services, the Learning Lab, Counseling, and Placement Services.)***

Expected Outcomes *(Project Objectives)*	
What will this project accomplish that you can't accomplish now?	
How does the project enrich or support the learning, teaching, or communication technology needs of students? *(List specific examples.)*	*As a result of this project, service to students will be improved through:*

SIGNATURES:

**Project Director	Date	*Associate Dean/Department Head	Date	*Vice President	Date
**Director of Building & Grounds	Date	**Director of Data & Voice	Date		

* For notification purposes only
* * For project feasibility

Henry Ford Community College

Technology Investment Fund
Project Funding Request

Executive Summary

DATE OF APPLICATION	PROJECT TYPE
Winter 2013	☐ New ☐ Upgrade/Expansion
NAME OF PROJECT DIRECTOR OR PRESENTER	**DEPARTMENT/DIVISION**
Kris Young	Automotive Technology
COST OF PROPOSED PROJECT	**NUMBER OF STUDENTS SERVED ANNUALLY**
$23,363.00	600-700 (All Auto Tech and ASSET Students)

SUMMARY

This project entails installing large television monitors on the walls in the main Auto Lab (T-152). Currently, when running labs where students must work in groups to complete lab assignments, students must look at service information or vehicle data on very small screens. This makes it difficult for each student to have one on one contact with the scan tools and computers. The large monitors will have inputs for our various scan tools and we will be able to display the live vehicle data or service information for each student to have a very good view.

There will be four wall-mounted screens, one single mobile station that can be moved around the lab or into a classroom, and an audio system with wireless microphones. There is a lot of noise in the lab when vehicles are running, tools are being used, and the in-floor exhaust system is on – so being able to speak over the noise will be a plus for everyone. A document camera is included in the quote so that we may put live video up on the screen of components under the hood of a vehicle, instead of making all of the students file around the engine compartment. One station will be a master station and have the capability to take over all of the other stations so that the entire class can see the same thing at the same time, if need be.

(Attach additional sheets if needed.)

Proposal

Henk AUDIO – VISUAL INC.
FULL SERVICE ELECTRONICS

Date 11/13/2012

Henk Audio Visual Inc.
P.O. Box 1100 Taylor, MI 48180
Phone (313) 292-4700 Cell: (313) 220-8828
Fax (313) 295-0180
Email: HenkAV@Comcast.net

TO: HFCC

Project / Event	Location	Date
Video Installation	Automotive Lab	TBD

Qty	Description	Unit Price	Total
4	51" Monitors	$1,150	$4600.00
4	Wall Mounts	$200	$800.00
4	Local Hookup Panels	$150	$600.00
	Master Hookup Panel		$150.00
	Composite Video Amp		$100.00
	HDMI Amp		$250.00
	Misc Cables (HDMI, VGA, Composite Video)		$449.00
	AV Cart		$489.00
	Monitor		$1150.00
	DV Cam		$1150.00
	DVR		$1400.00
	Wireless Headset MIC		$1350.00
	Portable Camera Scope Hookup		$25.00
6	Ceiling Speakers	$300	$1800.00
	Audio Amplifier		$850.00
	Security Locks for Monitors & Cart Mounted Eq.		$750.00
	Labor		$7450.00
		Subtotal	
			$23363.00

Automotive Technology Department

Winter 2013 TIF Proposal

Strategic and Departmental Plan Alignment Document

HFCC Strategic Plan

1. e) Increase marketing and communication of HFCC programs and services.
    - Our project increases the marketing and communication of our program by having the ability to display program and course specific information to people visiting our Lab. One example is during the SEMATA Conference: over 125 high school auto instructors come to our facility for training and spend a lot of time in our Main Lab. We would have the ability to market our program to them directly by displaying information while they are a captive audience.
    - A second example is during the HFCC Annual Open House: we routinely participate in the open house and invite prospective students to tour our lab and hear about our programs. Being able to display this information and possibly some pictures or video of our lab in use while they are visiting would be even more attractive.

2. a) Develop new and revise existing programs and curricula to meet the expectations of students, transfer institutions, and the workforce.
    - Even though this proposal does not revise an existing program or curriculum, it will allow us to *revise* the way we conduct lab exercises and make delivery of information in the lab more efficient.
    - It will help satisfy the expectations of the workforce by helping them be better prepared to go out into the field ready to use the equipment they trained on in our program.

4. a) Expand the use of technology to provide access to information, support communication, and enhance learning.
    - This project enhances learning by giving students the opportunity to have more viewing space and hands-on time with our electronic diagnostic equipment.

    h) Promote sustainability and environmentally sound policy in campus resource planning.
    - We will be much more environmentally sound by not having to print hundreds of pages of service publications and wiring diagrams. This will save a lot of paper and toner.

Automotive Technology Department Plan

5. Revise Courses and Curriculum. The technology is in a constant state of flux. Cirriculum and courses must be revised to cover these rapid changes in technology. Students will be better prepared to enter industry, and have a greater chance of success on licensing tests.
    - Again, this is not a change in course or curriculum, but a change in the way a lab can be run. With all of the students not struggling to view data or On Board Diagnostic tests, they will have an overall better learning experience and ultimately be more successful in the program and in industry.