



A Proposal to Establish a

Center for

Manufacturing Advancement

in Southern Virginia



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Executive Summary

The Institute for Advanced Learning and Research (IALR), in concert with state economic development and leading industry partners, proposes to establish a *Center for Manufacturing Advancement* on the IALR campus in Danville, Virginia.

This project will help to redefine how Virginia is the most forward-thinking, business-friendly state in the nation. By connecting this project with recent investments made in workforce development that provide the Commonwealth with certified skilled workers, this innovative Center will offer a platform for leading-edge business success targeted to international companies establishing their US “manufacturing beachhead.”

The goal of the Center for Manufacturing Advancement is to significantly reduce the traditional startup time that it takes businesses to become fully operational in a new facility (generally 12 to 24 months). These needs have been identified by new business prospects who are considering Virginia as a place to do business. With few, if any, other regions currently offering a similar complement of such services, the Center for Manufacturing Advancement will serve as an extremely powerful economic development tool and provide Virginia with a competitive edge in 21st century manufacturing.

Building upon the success of the 2013 expansion of advanced manufacturing programs at Danville Community College (DCC) and IALR, the Center will take the regional economic development effort to the next level – a level that will ignite a migration of new industries and jobs to the region that will far surpass the numbers generated through just the training program expansion alone. It is projected to attract 17 to 20 new businesses to the region over a 10-year period, creating an estimated 3,600 to 4,200 new jobs.

The proposed Center will provide vital support services necessary to rapidly launch new advanced manufacturing companies in Virginia, decreasing the time and cost from start-up to full, profitable production. These services include:

- **Rapid-Launch Facilities** that will enable new businesses to begin limited operations off-site during what is traditionally the initial down-time, as new businesses wait for their factory to be constructed and equipped to support full operations;

- **An ISO-Certified Inspection Lab** that will provide integrated inspection capabilities required to validate product quality. This service will reduce the start-up phase for a new company by 8 to 10 months – the time required to certify an inspection lab;
- **Process Improvement Labs** that will enable new and existing businesses to improve their processes in a more expeditious manner, thereby ensuring global competitiveness;
- **Concierge Service** that provides the wrap-around support needed by companies new to the US during their critical start-up phase.

“The region’s commitment to supporting manufacturing and its demonstrated investments in a world-class workforce pipeline was a key influencer in our decision to locate in this community. The newly proposed Center for Manufacturing Advancement will form an even greater benefit for manufacturers locating into the area as it provides businesses the ability to quickly launch new operations, saving both time and significant cost.” --Dale Coates, Vice President, Unison Tube NA

The Center for Manufacturing Advancement will personify the Commonwealth’s pro-business environment by providing services that few regions in the nation currently offer and will serve as a catalyst for economic development as it:

- Becomes a tangible, world-class example of a business friendly environment;
- Builds upon recent investments in workforce development and pipeline growth;
- Significantly increases the number of well-paying jobs;
- Improves the lives of our citizens, industry partners, and the region and state.



It should be noted that the proposed Center is not a stand-alone activity. Rather, it is the vital next phase in the logical progression of the region’s well thought-out, long-term economic recovery plan. A 51,000-square-foot facility, the Center will be located on the campus of the IALR, allowing it to leverage resources by drawing its governance, leadership, and administrative support from this institution.

The total cost will be \$25.5 million (\$18.5M in building costs, \$5.1M for equipment, and \$1.9M in operating start-up expenses). The program is projected to be self-funding by the completion of Year 4, as revenues from the Center provide for its ongoing operating needs.



— *Project Background & Need* —

As the most recently completed phase in the region's economic recovery plan, the expansion of DCC's advanced manufacturing program has to date had an extremely positive impact on the availability of well-trained workers in the region. The college has increased capacity of its Industrial Maintenance program and doubled the capacity of its Welding and Precision Machining Technology programs, while also revising curricula to align with industry credentialing standards. The expansion has included implementing counterpart dual enrollment programs in the local K-12 school systems, which enables students to earn credentials more quickly and, thus, become available to fill jobs more quickly. In the aforementioned programs, there are currently more than 300 students in the pipeline -- including students in dual enrollment, DCC's diploma program, and the Capstone Manufacturing program, which offers an Associate of Applied Science degree in Integrated Machining Technology. To date, 100% of machining program graduates receive job offers, generally from either newly arriving employers, existing regional employers, employers elsewhere in the state, or multiple job offers from a combination of such employers. Key program accomplishments include:

- Over the past two years, DCC machining students have earned more than 700 industry-recognized certifications, 300+ of which were National Institute for Metalworking Skills (NIMS) certifications;
- Over the past three years, DCC machining students have won state and national championships in the Skills USA competition;
- Through endowment funding, scholarships, equipment donations, and in-kind support, industry partners have provided nearly \$6 million in leveraged resources to DCC's advanced manufacturing program expansion.





As part of the Southern Virginia Regional Alliance (SVRA), Danville and Pittsylvania County economic developers and other regional city/county leaders have been working in tandem to leverage DCC’s program expansion and the abundance of newly credentialed workers to attract new investment in the region. Their efforts are most certainly paying off. Within just the past year, British manufacturers *Unison Ltd.* and *Overfinch*, as well as Japanese manufacturer *Kyocera*

SGS Precision Tools, have launched new businesses in the region, with all citing DCC’s workforce program expansion, innovative new training labs, and growing pipeline of skilled workers as playing key roles in their selection of Southern Virginia. In an earlier announcement, Virginia manufacturer North American Mold Technology also cited the new workforce training initiatives when revealing their selection of Danville for a new plant.

As seen in Fig. 1, the advanced manufacturing program expansion has resulted in creation of an additional 266 regional jobs. That number *can* and *will* continue to increase, as the ever-increasing pipeline of well-trained machinists continues to attract the attention of advanced manufacturing prospects.

Fig. 1 – *Jobs Created as a Result of DCC Training Program Expansion

<u>Company</u>	<u># new jobs</u>
North American Mold Technology	120
Overfinch	41
Kyocera SGS Precision Tools	35
Unison	55
Intertape Polymer Group facility expansion	15
Totals	266
<i>* Based upon new companies publicly citing DCC’s machining program as key to their decision to expand or open a plant in Southern Virginia</i>	

The proposed Center is not, however, an additional expansion of DCC’s successful advanced manufacturing programs. Rather, it is about taking the current effort to the next level – a level that, in providing the “missing link” of services that new manufacturers are seeking, will ignite a migration of new industries and jobs to the region that will far surpass the numbers generated through just the training program expansion alone.

It is important to clarify that the proposed Center for Manufacturing Advancement is not a research center, nor is it a business incubator:

- Whereas a business incubator generally provides support for *start-up* businesses, the proposed Center will provide quick-launch support for the expansion of successful and well-established *existing* businesses that are new to the region. Business incubation services will remain the responsibility of the Dan River Business Development Center.



- And whereas a research center generally provides high-level, experimental scientific work to develop *new* materials and products, the proposed Center, for the most part, will support process improvements for *existing* operations. High-end industry research will continue to be provided by the scientists in the IALR's existing research labs.



As the quick-launch concept being proposed is new in the U.S., it is difficult to point to case studies that promote the use of quick-launch sites in this country. For the sake of using an existing model to predict the success of the proposed model, the closest analogy would be the business incubator model. Although the incubator model addresses new businesses, and the quick-launch model addresses existing businesses, both offer “start-up” and similar types of business expansion services. Thus, the success of the business incubator concept portends an equally successful outcome when similar services are offered to well-established existing businesses.

According to the Economic Growth Institute of the University of Michigan:

“Business incubators have been shown to be an effective job creation tool; they not only generate new places of work, but also retain them in the community where they were created. Business incubators increase the survival rate of new businesses from an average

of 20% to 80%. In addition, 84% of businesses that “graduate” from incubators remain in the same region ten years later.”¹

Similarly, the International Journal of Science and Research made the following conclusions as part of an international study of business incubators:

“The findings of this study have shown that there is a strong relationship between economic development (measured by GDP) and the number of incubators found in a country. This study corroborates the earlier studies that tie entrepreneurship to economic development measured in terms of employment creation, income distribution and poverty reduction. This study shows that investment in business incubators has the potential of paying economic dividends to a country. Business incubators need to be adopted as a policy instrument for entrepreneurship development.”²

And finally, W.H. Owen Consulting conducted a review of the effectiveness of the University of Central Florida’s Incubation Program in the Orlando area with the following conclusion:

“Between 1999 to 2009, the UCF Incubation Program facilitated the growth and development of at least 100 new high-tech companies in the Central Florida region.”³

Although the quick-launch concept provides a different type of start-up support than that provided by incubators, the incubator studies do indicate that start-up support in general can play a vital role in securing a business’s long-term success. And while the quick-launch concept is unique, the request for such services is not unique, as every manufacturer that has visited the Southern Virginia region in the past year has cited the challenges of initiating a timely launch of their business when relocating from overseas to the U.S.

Thus, rather than having studies that specifically cite the efficacy of quick-launch sites, we have studies demonstrating the success of similar support services, and we have the word of manufacturers themselves. And what manufacturers have been telling us in no uncertain terms is that not only is there a critical need for such services, but that providing such services will set us

¹ *Incubating Success: Incubation Best Practices that Lead to Successful New Ventures.* A study by the Center for Business Acceleration and Incubation Studies, Economic Growth Institute, University of Michigan (funded by the U.S. Department of Commerce), July 2011.

² Oguto, V.O. and E. Kihonge, *Impact of Business Incubators on Economic Growth and Entrepreneurship Development.* International Journal of Science and Research, Vol. 5, Issue 5. May 2016

³ *Regional Economic Impact Study of UCF’s Business Incubation Program.* W.H. Owen Consulting, Inc. Technical Report. January, 2012.

apart from other regions and will give Virginia a significant competitive advantage in the economic development playing field.

VIRGINIA BUSINESS

Richmond Times-Dispatch

Official: Commitments are signs precision machining pipeline effort is working
"We wouldn't be here without this."
"This" is the effort that has been made in the Dan River Region to provide more training programs to get people ready to work in precision machining fields, according to Alan Pearce, president and CEO of Kyocera SGS Tech Hub.

More Information
"Project Cardinal" takes flight

City of Danville
\$350,000
Date: September 3, 2025
Mayor: Deborah F. Thompson, Mayor
Delegates: Terry G. Kilgore, Chairman
Senators: Frank M. Wolf, Vice-Chairman
Kyocera SGS Tech Hub, LLC.

The company supplies Rolls-Royce and serves three main markets: aerospace, airplane companies and medical products, Pearce said during an interview. McAuliffe announced the project Thursday at the Gene Haas Center at the Institute for Learning and Research.

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Value Proposition

Creating a World-Class Business Environment

Intense competition across global markets is the challenge faced by advanced manufacturing firms throughout the world. Such an environment demands that companies be nimble and able to adapt quickly to new technologies and market opportunities. Therefore, they must locate in an environment in which they will:

- Be valued and understood;
- Be able to access a highly skilled workforce;
- Operate in a competitive economic setting;
- Have the ability to quickly launch into new markets and continually improve their processes.

In other words, today's manufacturers are seeking a world-class business environment in which to operate. The proposed Center for Manufacturing Advancement goes to the core of creating this type of environment.

So often when we think of being "business friendly," we equate this to providing a low tax structure and the labor flexibility that comes with being a "right-to-work" state. While both of these attributes are important, there are many other areas of the country, especially within the southeastern region of the US, that also offer these benefits. Therefore, these attributes do not represent a competitive advantage in attracting new industry, but rather the lack of a weakness.

Beyond tax and labor benefits, there are many regions that have made the additional effort to aim higher by also focusing heavily on providing a well-trained workforce, as well as services such as hiring and training support, product research capabilities, and similar amenities. While these all add to a region's competitiveness, there are many regions that now offer such support.

What is needed to set a region apart from its competitors, then, is the ability to think outside the box, to listen to what manufacturers are asking for, and to make the short-term investments to respond to those requests so that the region (and its industry partners) can enjoy the long-term benefits those investments will reap. This project aims to do just that. The services that the proposed Center for Manufacturing Advancement will offer are considered unique and outside the box in terms of what is currently being offered in regions throughout the U.S. However, the concept for these services is not unique at all, as numerous industry prospects have repeatedly told Southern Virginia's economic development team that there exists a desperate need among manufacturers for such services. This is especially true for foreign companies looking to establish a presence in the United States (which represents a large number of business prospects that have been looking in the Southern Virginia region in recent years). In coming to the U.S., these businesses are separated from their home facilities by an ocean and many miles, which means they have no business connections within a reasonable distance that can provide proximate support as they face the challenges of a new business start-up. The concept for the Center for Manufacturing Advancement is about meeting those needs head on.



Meeting the Needs of Industry

The proposed Center will provide vital support services to help new and existing industries more rapidly move from the start-up phase to full production as they establish new business operations or expand their existing lines in the Commonwealth. These services include:

1. Quick-Launch Bays that will:

- Enable new businesses to begin limited operations off-site during what is traditionally the initial down time as new businesses wait for their factory to be constructed and equipped to support full operations;
- Enable existing businesses to test product expansion ideas without impacting their current operations and production schedules;
- Enable existing businesses to launch new product lines on a limited basis while permanent facility expansion is underway;
- Enable both new and existing businesses to provide hands-on training for new hires without impacting their operations.

2. Process Improvement Labs that will:

- Enable new businesses to test various processing configurations to determine the most effective design for their new facilities;
- Enable businesses to test and improve their existing processes without disrupting operations at their plants;
- Support businesses' collaboration with their suppliers to integrate key supplier components into plant operations;
- Provide a controlled environment in which businesses can replicate processing anomalies or challenges to an audience of technology experts for the purpose of identifying solutions.

3. **Demonstration Sites** that will:

- Enable companies to stage and promote emerging technologies and new products and equipment and support marketing plans from overseas companies to illustrate their products to a U.S. customer base;
- Will provide an integration opportunity for demonstrating and teaching Industry 4.0 concepts, along with Cyber and IT programming capability;
- Establish a collaboration platform for manufacturers and leading technology companies;
- Provide a rich supporting environment that will enable state and local economic development leaders to showcase advanced manufacturing resources, technologies, and services available in the Commonwealth.

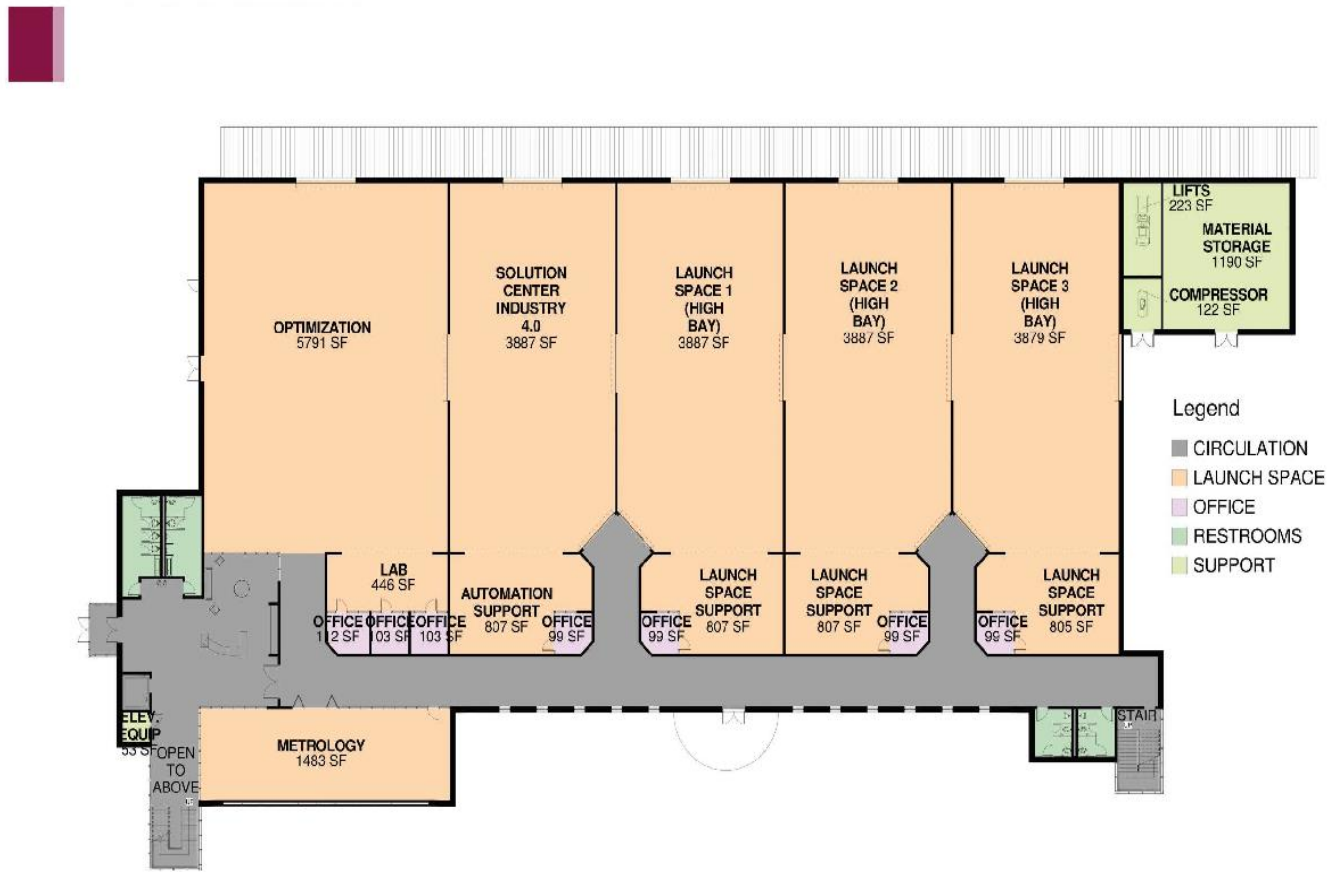
4. **An ISO-Certified Inspection Lab** that will:

- Provide integrated inspection support for all of the above services;
- Enable manufacturers to accurately and affordably measure and certify their products;
- Save time and money for new manufacturers by enabling them to bypass the lengthy process it takes to establish an inspection lab in their new facilities;
- Save time and money for existing manufacturers by enabling them to bypass the requirement to send products to an out-of-town lab for inspection if they currently do not have on-site inspection capabilities.

Through several years of surveying prospective, new, and established manufacturers in the region regarding how to best address these needs, project planners propose to build a two-story, 51,000-square-foot facility on the campus of the IALR in Danville that will offer the above amenities, as well as offices, meeting rooms, and areas to house support services.

As seen in Fig. 2 below, the first floor of the Center for Manufacturing Advancement contains four identical high bay lab areas (3,887 square feet each), as well as a larger high bay (5,791 square feet) and a smaller metrology/quality inspection lab space (1,483 square feet).

Fig 2 – Center for Manufacturing Advancement First Floor Rendering



These first floor areas on the Fig. 2 floor plan will serve as follows:

- **Quick-Launch Bays:** Three of the 3,887-square-foot labs will serve as Quick-Launch Bays to support new industry locating in the region, as well as businesses seeking to expand their operations. The quick-launch bays will enable industry to perform initial manufacturing operations and to provide on-the-job employee training. Such support can save an industry many months of delay and down-time as they await construction of a new factory or modifications to an existing factory. These bays, thus, represent a very large savings to

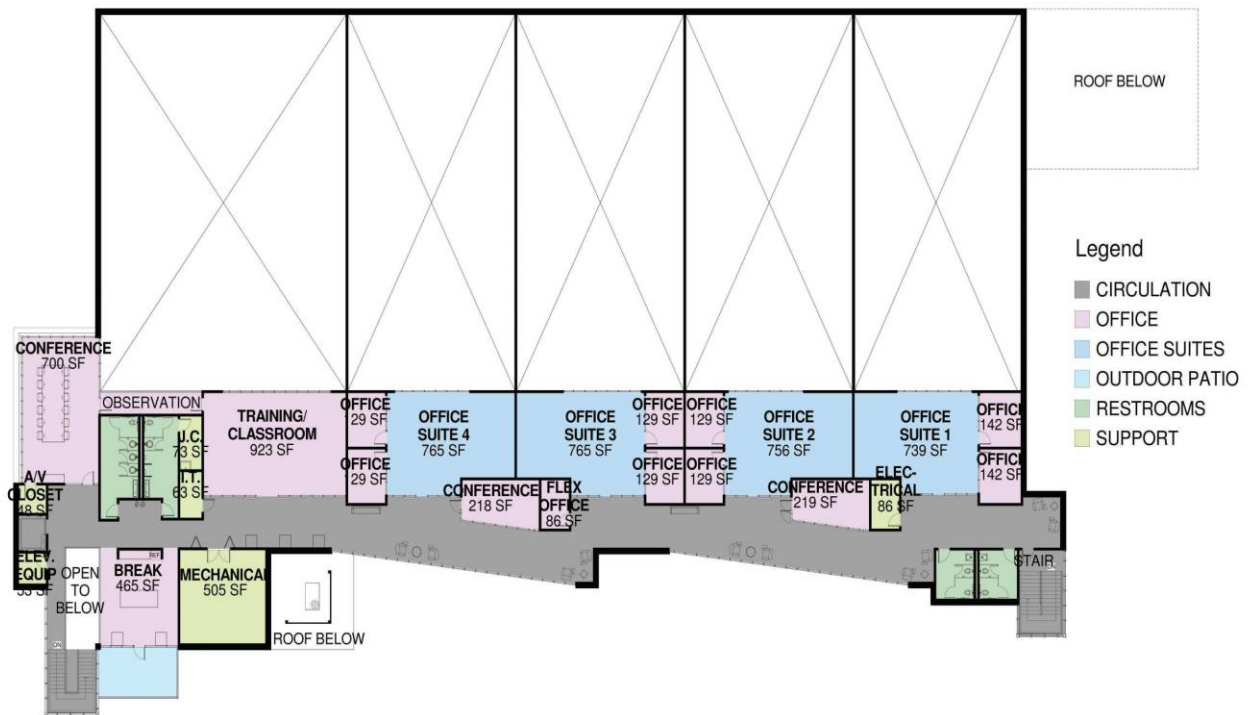
industry, thereby significantly reducing the risks that are inherent in any new business venture.

- Demonstration Site: The fourth high bay will serve as a demonstration site for companies that need space to showcase emerging technologies, products, and equipment. Companies will use this site as part of a marketing strategy to illustrate their products to a U.S. customer base. It will serve as a showcase that will attract customers from across the United States and provide a rich environment for state and local economic development efforts. Additionally, this space will provide an integration opportunity for demonstrating and teaching Industry 4.0 concepts along with Cyber and IT programming capability.
- Process Improvement Lab: The 5,791-square-foot high bay area (with affiliated office and support space) will serve as a process improvement lab to facilitate industry's development, testing, and optimization of new processes. This will enable industry to more rapidly prove out improvements and then easily incorporate the efficiencies back into the company's ongoing operations with minimal disruption. Eliminating this disruption to an existing factory's operations as well as a business's ability to quickly and affordably incorporate operational improvements represents a significant cost savings to industry and increases their competitiveness on a global level.
- ISO-Certified Inspection Lab: Additionally, the first floor features a 1,448-square-foot fully equipped ISO-certified inspection lab to support the product inspection needs of manufacturers – both those using the Center's other services as well as manufacturers merely in need of rapid inspection capabilities. Within the field of advanced manufacturing, the ability to accurately measure and certify the results of products is essential. These measurement labs are controlled according to strict industry standards that require that they be certified by an independent, external organization. This certification process can be both lengthy and costly. Having immediate access to this lab can eliminate the significant costs and months of delay affiliated with a new inspection capability.

As seen in Fig. 3 below, the second floor provides observation areas that overlook the high bay floor space in the quick-launch bays and the process improvement lab. The second floor also provides office space, conference rooms, training/classroom space, and affiliated support service space. These areas on the second floor comprise approximately 2,000 square feet of floor space.

It is estimated that the time savings for new industry locating to the region will range from 12 to 24 months, saving industries both time and money.

Fig 3 – Center for Manufacturing Advancement Second Floor Rendering



Timeline

Program implementation will span 5 years with the building and capital acquisitions occurring in Year 1. Prior to Year 1, program managers work to secure funding and work on program planning, procurement planning, announcements, and strengthening partner support. For planning purposes, it will be assumed that the Center will begin operations in 2019. Fig. 4 below provides a summary of the timeline and corresponding activities.

Fig. 4 – Center for Manufacturing Advancement Project Timeline

Year 1 (2019)	1 st half	A&E and construction contracts awarded, construction begins, equipment ordered
	2 nd half	Finalize interior layout, monitor construction and equipment acquisition, begin marketing program
Year 2 (2020)	1 st half	Hire initial staff, construction complete
	2 nd half	Install equipment, grand opening, begin offering initial services
Year 3 (2021)	1 st half	Expand services, continue incremental hiring
	2 nd half	Attain ~30% usage status
Year 4 (2022)	1 st half	Expand services, continue incremental hiring
	2 nd half	Attain ~60% usage status
Year 5 (2023)	1 st half	Expand services, continue incremental hiring
	2 nd half	Center becomes sustainable, achieves 70% usage status



Impressed with workforce, UK company to bring manufacturing operation to Dan River Region



Program Costs

The total program funding for the Center for Manufacturing Advancement is \$25.5 million. As seen in Fig. 5 below, these costs include construction of the new facility, equipment acquisition and installation, and start-up operating costs.

Fig. 5 – Center for Advanced Manufacturing Funding Requirements

<u>Area of Activity</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>TOTAL</u>
Building Cost	\$18,512,500					\$18,512,500
Equipment Needs	\$5,078,474					\$5,078,474
Operating Shortfall	\$859,525	\$626,006	\$375,614	\$20,132	\$0	\$1,881,277
TOTAL	\$24,450,499	\$626,006	\$375,614	\$20,132	\$0	\$25,472,251
Cumulative Needs	\$24,450,499	\$25,076,505	\$25,452,119	\$25,472,251	\$25,472,251	\$25,472,251

Of particular note is the fact that, as seen below, by the end of the fourth year of operation, the Center will become completely self-funding. This sustainability, coupled with the resultant increase in jobs and employers in the Southern Virginia region, make the proposed Center an impressively sound investment and a lucratively proactive use of taxpayer funds.

The Center will require an initial complement of equipment that will enable the basic functioning of the facility as well as equipment to provide the support services to industry. An overview of the equipment needed is outlined in Fig. 6 below.

Fig. 6 – Projected Equipment Costs

Shared Support Equipment	
Forktrucks/Lifts, etc.	\$50,000
Operations Equipment	
Optimization Lab (17 tools)	\$2,557,079
Certified Inspection Lab (11 tools)	\$969,360
Automation / Industry 4.0	\$1,502,035
TOTAL EQUIPMENT COSTS	\$5,078,474

Fig. 7 – Projected Building Costs

Building

Prepare 8 acres	\$1,600,000
General requirements	\$1,160,000
Building superstructure	\$4,540,000
Interior finishes & upfit	\$2,020,000
Fire suppression	\$360,000
Mechanical	\$1,585,000
Plumbing	\$725,000
Electrical	\$1,210,000
Generator & separate metering	\$250,000
LEED certification (silver level, state-required)	\$675,000
Building contingency @ 12%	\$1,695,000
Building subtotal	\$15,820,000
Building Furnishings	
Furnishings	\$325,000
IT/data/technology	\$700,000
Building Furnishings subtotal	\$1,025,000
Building Fees	
A&E fees	\$1,350,000
Geotech for design	\$12,500
BCOM/value engineering/estimates	\$117,500
Survey	\$15,000
Wetlands	\$12,500
Construction inspection	\$75,000
Storm water credits	\$85,000
Building Fees subtotal	\$1,667,500
TOTAL BUILDING COSTS: \$18,512,500	
<i>Cost estimates provided by Dewberry, 7/2017</i>	



Financial Projections

The total funding required to implement this program is \$25,472,251. As discussed above, the Center is projected to become self-sustaining at the end of Year 4 as revenue from the Center's activities provides the ongoing coverage of the Center's related operating costs.

Fig. 8 below provides a pro-forma statement that reflects the expected revenues and related expenses during the first 5 years.

Fig. 8 – Profit & Loss Summary for Center for Manufacturing Advancement					
<u>Area of Activity</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
Projected Revenue	\$167,500	\$632,500	\$1,168,334	\$1,843,334	\$2,302,344
Labor Expenses	-\$768,717	-\$859,571	-\$1,107,781	-\$1,385,623	-\$1,435,556
Non-Labor Exp.	-\$258,308	-\$398,936	-\$436,167	-\$477,843	-\$485,333
PROFIT/LOSSS	-\$859,525	-\$626,007	-\$375,614	-\$20,132	\$381,445
Cumulative P&L	-\$859,525	-\$1,485,532	-\$1,861,146	-\$1,881,278	-\$1,499,833

Any excess margin that is generated will be applied to support follow-on capital requirements as new equipment needs arise or as existing equipment requires upgrading.

As the Center for Manufacturing Advancement will be located on the IALR campus, funding to purchase land will not be required, which represents a valuable cost-saving measure for the project. Likewise, the plan is to enable the Center to take advantage of the IALR's overhead services -- such as leadership and governance, accounting support, and human resources support -- thereby providing an additional significant level of cost savings. Project planners want to ensure that the primary focus of the Center is on meeting manufacturers' needs and helping state and local economic developers recruit new industries to the Commonwealth.

The projection in Fig. 9 below offers a breakdown of the Center's projected incremental operating expenses. This projection is linked to the related revenue projection and would be managed either up or down as a function of actual revenues.

Fig. 9*

Projected Operating Cost - Center for Manufacturing Advancement					
Area of Activity	Year 1	Year 2	Year 3	Year 4	Year 5
Headcount					
Number of Employees	7	8	10	12	12
Related Labor Cost	\$541,350	\$605,332	\$780,127	\$975,791	\$1,010,955
Fringe Expense	\$227,367	\$254,239	\$327,653	\$409,832	\$424,601
Subtotal Labor Expenses	\$768,717	\$859,571	\$1,107,781	\$1,385,623	\$1,435,556
Overhead/Supplies Expense					
Supplies	\$38,436	\$42,979	\$55,389	\$69,281	\$71,778
Machine Services & Support	\$23,062	\$25,787	\$33,233	\$41,569	\$43,067
Utilities	\$123,000	\$250,000	\$250,000	\$250,000	\$250,000
IT Services & Support	\$23,062	\$25,787	\$33,233	\$41,569	\$43,067
Building Maintenance	\$30,749	\$34,383	\$44,311	\$55,425	\$57,422
Professional Development	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
Subtotal Overhead Expenses	\$258,308	\$398,936	\$436,167	\$477,843	\$485,333
Total Operating Expenses	\$1,027,025	\$1,258,506	\$1,543,948	\$1,863,467	\$1,920,889

**Figures rounded by formula in some of the entries.*

Although the Center will generate sufficient revenues to sustain operations after Year 4, the actual payback for this investment is derived from the economic development impact that it produces for the Commonwealth. The impact will be substantial, as the Center will provide the “missing link” capability between the availability of a well-trained workforce and the ability for industry to rapidly locate and grow their presence in the region.



Economic Impact

The Center for Manufacturing Advancement will leverage significant investments that have been made in workforce development over the past 5 to 7 years in the Southern Virginia region. These

investments have already established a successful framework for attracting advanced manufacturers to the region. The proposed Center represents a continuation of this investment strategy and will provide the “missing link” between a world-class workforce solution and a company’s ability to quickly and successfully launch a new business in the Commonwealth. As manufacturers have long been requesting such services, establishing such a Center will not only demonstrate that Virginia understands the needs of business, but that we are willing to back it up by going beyond other regions to create a 100% business-friendly environment.

According to a June 2017 analysis by Reuters, out of 656,000 new manufacturing jobs created between 2010 and 2014 in America, two-thirds can be attributed to foreign direct investment. Although more recent job numbers were not available at the time of the Reuters report, data from the U.S. Bureau of Economic Analysis showed that over \$700 billion in foreign capital has poured into the U.S. over the past two years, bringing total foreign investment to \$3.7 trillion at the end of 2016 – a world record.⁴ Every indication is that this trend will persist and foreign companies will continue to bring new manufacturing jobs to the U.S. – and those jobs have to go somewhere. We want that “somewhere” to be Virginia!

The economic impact of the Center for Manufacturing Advancement is expected to be transformational, as the center’s quick-launch space will facilitate the establishment of many new manufacturers in the region. Assuming an approximate 70% utilization rate of this space over a 10-year period, program planners estimate that the Center will launch 17 to 20 new advanced manufacturers in the region, as seen in Fig. 10 below. Applying an estimated job creation rate of 60 new jobs per company would result in the creation of approximately 1,020 to 1,200 new direct jobs over a 10-year period. Given that these companies represent advanced manufacturers that have large indirect and induced economic impacts, the actual number of jobs created could exceed 3,600.

Fig. 10 – Economic Impact (Jobs) Created by the Center for Manufacturing Advancement in First 10 Years		
<u>Area of Activity</u>	<u>Range of Job Impact</u>	
	Minimum # Jobs	Maximum # Jobs
Jobs at Center for Manufacturing Advancement	15	15
	+	+
Direct Jobs from New Company Launches	1,020 (based on assumption of 17 new companies x avg of 60 jobs per company)	1,200 (based on assumption of 20 new companies x avg of 60 jobs per company)

⁴ ‘Bad’ foreign firms drive U.S. manufacturing jobs revival. Business News, Reuters. June 30, 2017. <http://www.reuters.com/article/us-usa-trade-investment/bad-foreign-firms-drive-u-s-manufacturing-jobs-revival-idUSKBN19LOF3>

Direct Job Impact TOTAL	= 1,035	= 1,215
	+	+
Indirect Job Impact TOTAL (total number of direct jobs x economic multiplier of 2.5*)	2,588	3,038
TOTAL JOB IMPACT	= 3,623	= 4,253

*NOTE: The indirect job multiplier of 2.5 is derived from a research report published in April 2016 by the National Science and Technology Council. According to the report, manufacturing continues to play an outsized role in the US economy, with the greatest economic multiplier of any other sector. The report identifies an economic multiplier of 4 as being a reasonable number to assume based on the Council’s research (i.e., for every direct manufacturing job created, four additional indirect jobs are created). Additionally, their findings indicate that when next-generation technologies are involved, the multiplier can grow to as high as 16. For the purpose of this proposal, however, we have chosen to apply a very modest economic multiplier of 2.5. Thus, the number of jobs forecast in Fig. 10 is a very conservative number; in reality, the number of total jobs created within 10 years is likely to be higher than the 3,623 to 4,253 jobs forecast in Fig. 10 above.⁵

As seen in Fig. 11 below, project planners can also forecast an average salary of \$52,000. This figure is the average salary being paid by the newer industries that have recently relocated to the Southern Virginia region. It is, thus, reasonable to estimate that over the next 10 years \$52,000 would be on the low end of the average salary being paid by additional new advanced manufacturing companies moving to the region.

Thus, if the proposed Center for Manufacturing Advancement generates the minimum number of jobs expected (Fig. 10), the effort will result in an additional \$188 million in salaries being pumped back into the local economy each year (3,623 jobs x \$52,000 average annual salary = \$188,396,000). If the project achieves the high end of the jobs target (4,253), that number will jump to \$221 million per year. This is based on an anticipated realistic range of 17 to 20 new industries relocating to Southern Virginia and taking advantage of industry support offered in the first 10 years of Center operation.

⁵ *Advanced Manufacturing: A Snapshot of Priority Technology Areas Across the Federal Government.* Subcommittee for Advanced Manufacturing, National Science and Technology Council. April, 2016.
<https://www.whitehouse.gov/sites/whitehouse.gov/files/images/Blog/NSTC%20SAM%20technology%20areas%20snapshot.pdf>

In addition to salaries, these new companies will be making capital investments that will positively impact the local and statewide economy as well. The average amount of investments being made by the region's four newest companies, as well as the one company expansion, is \$6,940,000, as seen in Fig. 11 below. Thus, if the Center for Manufacturing Advancement attracts 17 new companies to our region (the project's minimum goal), the total capital investment by businesses will be \$118 million. If the high-end goal of 20 companies is achieved, that figure will be \$139 million. This is in addition to the annual salaries totaling \$188 million (minimum) per year. Thus, this project will produce an extremely impressive return on investment for the \$25.5 million costs of the project.

Figure 11: Jobs Created as a Result of DCC Machining Program

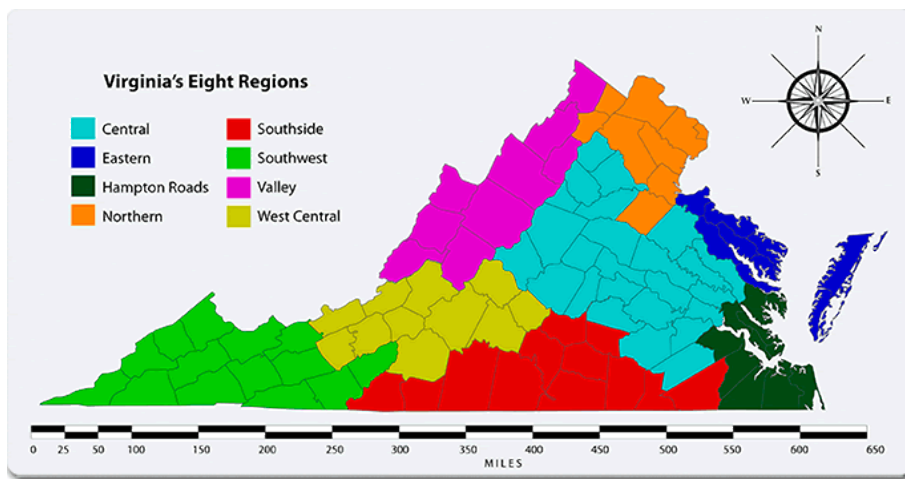
<u>Company</u>	<u># new jobs</u>	<u>Average pay</u>	<u>Capital investment</u>
North American Mold Technology	120	TBD	\$4.35M
Overfinch	41	\$45,000	\$8.65M
Kyocera SGS Precision Tools	35	\$62,000	\$9.5M
Unison	55	TBD	\$5.2M
Intertape Polymer Group facility expansion	15	\$50,000	\$7.0M
Totals	266 total	\$52,333 avg.	\$34.7M total \$6.94M avg.



Socioeconomic Profile of Area

Although the Center for Manufacturing Advancement will be constructed in Danville, project leaders expect that the Center will serve manufacturers (as well as employees of those manufacturers) across a broad region of Southern Virginia. This is because, upon its completion, the Center will be a one-of-a-kind service center offering a unique complement of services that manufacturers will not be able to find elsewhere. Thus, it is expected that the Center will draw from an employer and employee population across the entire Southern Virginia region. To ensure all potential regional stakeholders are included in this discussion, this section will reflect data and demographics⁶ for the region known as “Southside Virginia” (i.e., extending across the southern border of the state from Patrick County east to Southampton, and including most of the contiguous counties directly north of these counties).

Fig. 12 – Map of the Eight Regions Comprising the Commonwealth of Virginia



Unlike other major regions in Virginia, Southside is the only region to have experienced population decline in recent years. This is likely due to the slow pace, until recently, of new jobs being created in the region, which results in

many of the region’s younger potential workers moving elsewhere to seek lucrative careers. In attracting stable, well-paying jobs in advanced manufacturing, the Center for Manufacturing Advancement aims to turn this trend around and eventually drive a population increase as talent moves into the region to supplement the existing talent supporting the new jobs.

Southside Virginia has the highest African American population among the state’s regions, with the demographics being 63% white, 32% black (compared to a 19% statewide average), 3% Hispanic, 1% Asian, and 1% other.

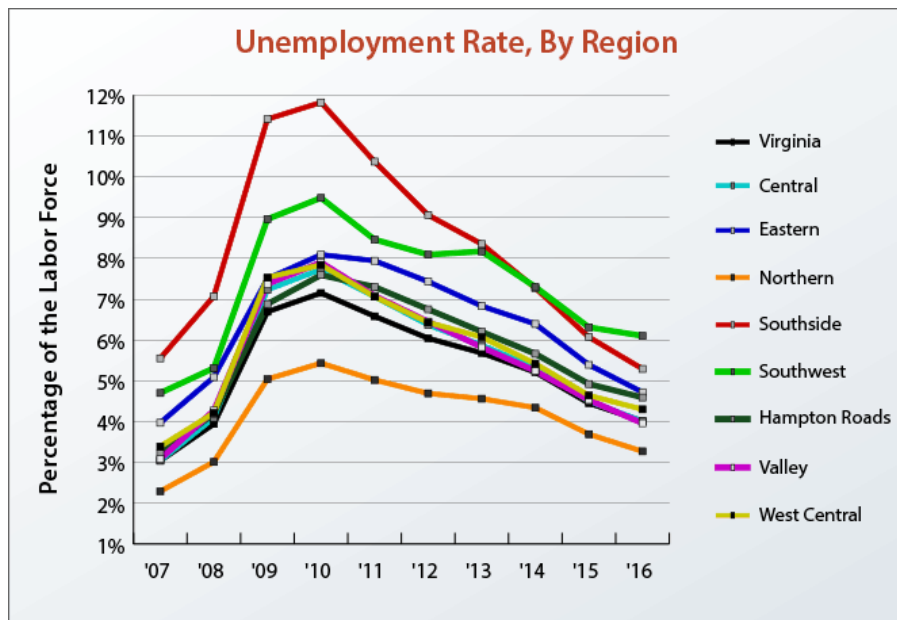
At \$37,892, median income in Southside is substantially below the state median of \$63,636, with Danville’s neighbor Martinsville having the lowest median income in the region at \$28,840. With

⁶ *Virginia’s Regions*. The Demographics Research Group, University of Virginia. Weldon Cooper Center for Public Service. http://demographics.coopercenter.org/files/2016/12/RegionalProfiles_28July2014.pdf

such low income levels across the region, clearly the proposed Center will serve as a true game-changer with the targeted \$52,000 salaries paying a third more than the current median salary, and nearly twice as much as the median salary in Martinsville and similarly struggling pockets across the region.

Additionally, Southside has in recent years consistently led the state in having the highest unemployment rate. However, as Fig. 13 below shows, this rate changed in 2015, with Danville moving up one notch to now have the second to the highest rate in the state. The shift in this trend might be due, in part, to the brightening employment outlook in Southside Virginia as the region is successfully reinventing itself through efforts such as DCC’s manufacturing program expansion and more and more businesses are considering the region as a viable option.

Fig. 13 – Unemployment Rates of the Commonwealth’s Eight Regions



Governance

As mentioned previously, the Center for Manufacturing Advancement will operate as part of the IALR. As such, the IALR will provide initial and ongoing governance, leadership, and support of the Center. This will further leverage the current infrastructure of the IALR and bring immediate

expertise to the Center’s programs. Fig. 14 below reflects the current IALR structure applicable to governance of the proposed Center.

Fig. 14 – Governance of Proposed Center

Goverance - Center for Manufacturing Advancement	
IALR Structure	Provision of Support
Executive Staff	➔ Provide daily operating guidance & admistrative support
Board of trustees	➔ Guide the executive staff
Foundation Board	➔ Oversee charitable activities, gifts and property

The proposed Center for Manufacturing Advancement will also take on the same mission statement as the IALR, as the statement also reflects the spirit and intent of the new Center:

The Institute for Advanced Learning and Research serves as a regional catalyst for economic transformation. The mission will be accomplished through applied research, advanced learning, and economic development.



Partnerships

As discussed in earlier sections, the Center for Manufacturing Advancement is being proposed in response to a growing crescendo of requests from existing industries as well as new industry prospects (particularly those from overseas) for access to support systems that will reduce the risks, costs, and time delays associated with expanding an existing plant or opening a new plant. To this

end, as discussions with these various industries continued, and DCC planners began moving to make the proposed Center a reality, industry response has been overwhelming. Not just in terms of affirmation that the Center is needed, but with industries enthusiastically offering to help with potential equipment donations, input regarding program needs, support of curricula for OJT, and commitments to use the Center's various services.

This section lists the four categories of partners supporting the effort to create a Center for Manufacturing Advancement:

- Workforce Partners
- Operational Partners
- Funding Partners
- Educational Partners

Workforce Partners are key employers that have heavily recruited from the region's Precision Machining Technology worker pipeline and some have also expressed a desire to use the services that will be offered by the Center for Manufacturing Advancement. These companies include:

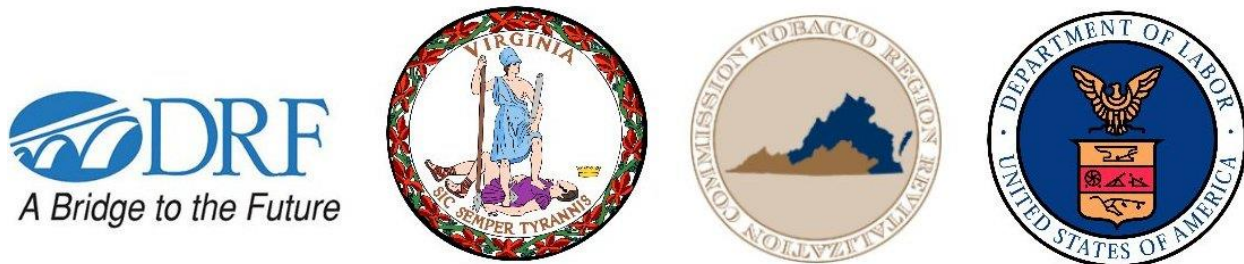


Operational Partners are those that have made significant contributions to the region's workforce solution and have also expressed interest in using the services proposed in the new Center. It is noteworthy that the Gene Haas Foundation (the funding arm of the machine tool manufacturer Haas Automation) donated \$1 million to the IALR in 2015 and has also funded an annual scholarship program for students enrolling in DCC's machining program (approximate value of the scholarship program is \$50,000 annually). Along with Mitutoyo, Haas Automation is currently using DCC/IALR programs to provide customer training in support of their U.S. customer base. Likewise, Sandvik Coromant and Master Gage & Tool have contributed significant in-kind hours in program and curriculum development and have made hefty donations of equipment and other resources to support DCC's advanced manufacturing workforce training program. These

companies are keenly interested in also participating in development and use of the Center for Manufacturing Advancement.



Funding Partners are institutions that have invested heavily in regional workforce programs as well as a broad array of economic development initiatives.



Educational Partners are institutions that have made significant monetary and resource commitments to deliver a world-class workforce pipeline. Their activities will be interwoven with the activities of the proposed Center and will provide an early introduction between students and potential employers.



DANVILLE



Public Schools
Innovative Learning Community



— *Letters of Support* —

The letters of support on the following pages are representative of industry's affirmation regarding the need for the proposed Center for Manufacturing Advancement, as well as

industry's commitment to helping with project support and commitment to use of the proposed facilities and services.



September 29, 2017

Mark Gignac
Interim Executive Director
Institute for Advanced Learning & Research
150 Slayton Ave., Danville, VA 24540

Dear Mark,

At BWXT, we are an industry leader in the delivery of nuclear power to our customers. We design, manufacture and service our products to rigorous standards and we are committed to delivering products and services of the highest quality. To this end, we have long been passionate about innovation and advanced technologies and this has allowed us to achieve an impressive number of firsts in our industry.

Attracting a highly skilled workforce is therefore critically important to our success and for many years BWXT has hired graduates of DCC's Precision Machining Technology program. More recently we played a key role in the development of the curriculum for the program's most recent expansion into a third year college-level program that is housed at the Institute for Advanced Learning and Research. Having access to this caliber of workforce skill has been invaluable to our operation.

Our future growth will rely upon continuously refining our operation and your plans for a Center for Manufacturing Advancement could help us achieve many of these improvements. Having access to the improvement labs proposed as part of this center will enable us to easily host collaborative sessions between our engineering team and external technology partners. This would also bypass a lengthy and costly visitation process at our site that is necessary to ensure security.

Additionally, this center may also provide an opportunity for us to utilize it as an off-site training facility for some of our new hires. It would enable them to acquire hands-on experience in some of BWXT's unique processes using BWXT training equipment.

We are supportive of the proposal for The Center for Manufacturing Advancement and are pleased to partner in the long-term success of this endeavor. We urge the Commonwealth of Virginia to provide the financial backing necessary to launch this program.

Very Sincerely,

B. Joel Burch
Vice President and General Manager
BWXT Nuclear Operations Group, Inc. – Lynchburg



Bill Ermatinger
Executive Vice President and
Chief Human Resources Officer

4101 Washington Avenue
Newport News, VA 23607
Telephone 757-534-1931 Fax 757-688-7750
Bill.Ermatinger@hii-co.com

October 12, 2017

Mr. Mark Gignac
Institute for Advanced Learning and Research
150 Slayton Ave.
Danville, VA 24540

Dear Mr. Gignac:

As an introduction to Huntington Ingalls Industries, we are America's largest shipbuilding company, employing nearly 37,000 people both domestically and internationally. Huntington Ingalls Industries is the largest industrial employer in both Virginia and Mississippi, and we have plans to add approximately 4,000 workers over the next three to five years. These positions will range from welders to designers, and our ability to access a highly skilled and qualified workforce is critical to our continued success. Your efforts to develop a world class training capability in precision machining, welding, robotics, etc. are of significant interest to HII, and we support your continued progress in these programs.

More specifically, I would like to express our support for The Institute for Advanced Learning and Research and Danville Community College in establishing the Center for Manufacturing Advancement. This center will provide an innovative and much-needed capability that fosters manufacturing process improvements and builds upon the extraordinary aforementioned training programs currently located at DCC and IALR.

A center that is dedicated to improving processes, supported by a qualified inspection lab would be an extremely useful asset to Huntington Ingalls Industries and many other manufacturing companies throughout the region. Likewise, having access to a lab that demonstrates new and emerging technologies will serve as a platform for collaboration among manufacturers. This center could provide a world class example of what it means to be a manufacturing friendly environment as it enables and fosters a more globally competitive environment.

We fully support your efforts and are willing to assist in an advisory capacity, evaluation & oversight, or any other means necessary to successfully launch this exciting new program in the Commonwealth of Virginia.

We applaud your efforts, and those of the broader community, in working collaboratively with manufacturers in the Commonwealth to meet the changing demands of 21st century manufacturing, and we look forward to your progress.

Sincerely,

A handwritten signature in blue ink that reads "Bill Ermatinger".

Bill Ermatinger
Executive Vice President and
Chief Human Resources Officer

www.huntingtoningalls.com



October 3, 2017

Mark Gignac
Interim Executive Director
Institute for Advanced Learning & Research
150 Slayton Ave., Danville, VA 24540

Dear Mark:

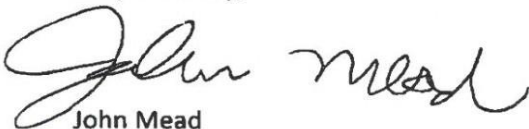
Master Gage and Tool Co. have been in operation since 1986 with a Metrology Solution Centers located in Danville, VA and Charlotte, NC. We provide advanced tooling and gaging products and services to our customers across the Southeast United States with long standing successful relationships with Advanced Manufacturers. Utilizing advanced technologies and innovative process solutions have been a hallmark of our business model and the success of our company.

For many years Master Gage and Tool Co. has been involved with DCC's Precision Machining Technology program. More recently we played a key role in the development of the curriculum for the program's most recent expansion into a third year college-level program that is housed at the Institute for Advanced Learning and Research. This has developed into a world-class capability and we are proud to be a funding sponsor of a female student each year as part of the ongoing Scholarship Program.

From our experience, your plans for a Center for Manufacturing Advancement could attract significant interest from Advanced Manufacturers as they look to locate their businesses in regions that are able to support and sustain their business needs. Having access to the improvement labs proposed, as part of this center will enable us to participate in collaborative improvement sessions between our team and a broad array of potential external technology partners.

We fully support this proposal for The Center for Manufacturing Advancement and urge the Commonwealth of Virginia to support the launch of this program.

Very sincerely,



John Mead



Mark Gignac
Interim Executive Director
Institute for Advanced Learning & Research
150 Slayton Ave., Danville, VA 24540

10/3/2017

Dear Mark,

At Mitutoyo we believe that a good environment, good people and good techniques are at the heart of our success. We are the worlds largest metrology company, founded in 1934 with a legacy of metrology leadership across many different industries. A guiding principle for our company over many years has been that "the able person must be raised first before a product can be created". This region's investment in creating a world-class workforce pipeline embodies this ideal and has led us to very impactful relationship with DCC and IALR. It has opened many new business opportunities and gives Mitutoyo confidence that our partnership will create an even stronger legacy.

Similarly, the newly proposed Center for Manufacturing Advancement will form an even greater benefit for area manufacturers as it establishes a world-class manufacturing environment and demonstrates leading manufacturing techniques. By providing ability to quickly launch operations, a space for process improvement and an environment in which new technology and products can be validated, it will be invaluable asset for growing the region and the businesses involved.

We would like to express our support for this program and urge the Commonwealth of Virginia and other local funding bodies to support this important new capability.

Very sincerely,

Todd Himes
Regional Manager

Headquarters: 965 Corporate Boulevard • Aurora, Illinois 60502-9176 • 1-888-648-8869 • Fax: (630) 820-2614

USA OFFICES:

ALABAMA
2100 Riverchase Center, Suite 105
Birmingham, AL 35244

CALIFORNIA
16925 Gale Avenue
City of Industry, CA 91745

MASSACHUSETTS
1 Park Drive, Suite 11
Westford, MA 01886

MICHIGAN
44768 Helm Street
Plymouth, MI 48170

NORTH CAROLINA
11515 Vanstony Drive, Suite 150
Huntersville, NC 28078

OHIO
6220 Hill Top Court
Mason, OH 45040

WASHINGTON
1000 SW 34th Street, Suite G
Renton, WA 98057



Haas Factory Outlet

A Division of Phillips

October 9, 2017

Mark Gignac
Interim Executive Director
Institute for Advanced Learning & Research
150 Slayton Ave., Danville, VA 24540

Dear Mark,

At Phillips Corporation, our mission is to partner with our metalworking customers to improve competencies for applying manufacturing technology that result in leaps in productivity, great prosperity, and enduring competitive advantage. We view ourselves as a unique community of high performers, a work in process that is dedicated to rapid continuous improvement for the purpose of providing unusual levels of productivity and service.

Likewise, we have had a productive and enduring relationship with Danville Community College and the Institute for Advanced Learning and Research and together have created a world-class workforce training capability in high precision metal machining. Furthermore, our confidence in this program has led us to entrust to your programs a HTEC training designation in order to meet the critical training needs of our customers.

Your proposal to establish a new Center for Manufacturing Advancement is exciting and will be beneficial for many manufacturers; especially those considering a potential new factory build. By providing an ability to quickly launch their operations, a space for process improvements and demonstrating new products, it will become an invaluable asset in attracting new business as well as fostering growth for existing business within the region.

We congratulate you on this exciting new development and would like to express our full support for this program.

Sincerely,

Michael A Garner
Vice President of Sales
Phillips Commercial
Haas Factory Outlet / A Division of Phillips Corporation
O: 501-562-9011 Ext. 422
C: 501-944-1122
mgarner@phillipscorp.com

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Phone: 336-665-1080 – Fax: 336-665-1980
E-mail: sales@jeffreysmfg.com – Web: www.haascnc.com

Other Locations: Haas Factory Outlet/ Duncan, SC – Flowery Branch, GA - Franklin, TN
Little Rock, AR - Birmingham, AL



PIEDMONT PRECISION MACHINE CO., INC.

____PRECISION MACHINE WORK • FABRICATION • CUSTOM MACHINERY • PLATING____

Mark Gignac
Interim Executive Director
Institute for Advanced Learning & Research
150 Slayton Ave., Danville, VA 24540

Dear Mark,

Piedmont Precision Machine, Inc. is an international company serving companies in the automotive, power generation, paper, glass and tire industries here in the US and abroad. We have been in operation for over 45 years, with three locations in Virginia. We are involved in providing machine and fabrication services to these industries as well as providing support for product/process optimization at the customer site.

Piedmont Precision Machine has hired students from DCC's Precision Machining Technology program and supported the expansion into a third year college-level program that is housed at the Institute for Advanced Learning and Research. The presence of these programs have been a big help to the success of our operation and we certainly support the proposed addition of the Center for Manufacturing Advancement.

Having a center that helps new industry start-up their operations quickly and then improve their processes going forward would be a great addition to our region and could attract significant interest from Advanced Manufacturers. Likewise, we could utilize this type of facility to identify improvements to our operation as well as identifying potential new customers.

We feel this would be a tremendous asset to Danville Industry and the region. Piedmont Precision Machine supports this proposal and we urge the Commonwealth of Virginia and other local funding bodies to support the launch of this program.

Very sincerely,

William J. Gentry, Jr.

Owner/President

Piedmont Precision Machine, Inc.

PO BOX 10309 DANVILLE, VA 24543

PHONE (434) 793-0677 FAX (434) 822-4022



a wholly-owned Subsidiary of



KYOCERA SGS Precision Tools, Inc.

World Headquarters 55 S Main Street
Munroe Falls, OH 44262
Tel : 330-688-6667
Fax: 800-447-4017
<http://www.sgstool.com>

October 9, 2017

Dear Mr. Mark Gignac,

KYOCERA is a global company with a very diverse product portfolio that includes semi-conductors, cellular telephones, printing technologies, alternative energy technologies, and cutting tool technologies. With over \$13 Billion in sales, 65,000 employees, and facilities in over 40 different locations, we pride ourselves on embracing continuous improvement, technology advancement, and innovation in products and services to our various group of global customers.

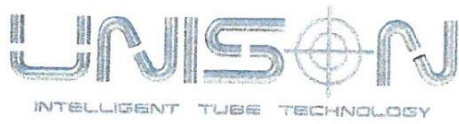
I am writing this letter on behalf of KYOCERA SGS Tech Hub, LLC. We are a new division within the KYOCERA cutting tool group created as a technology and engineering center within our overall organization as a corporate strategy to focus on providing optimized engineered solutions. This vision aligns perfectly with the workforce and regional development efforts going on in Danville, VA, which is specifically why we chose this community as the home of this critical and advanced division. The commitment the Danville community has shown to advanced manufacturing and pushing evolutionary technologies into its human resources, makes it second to none in allowing our vision to prosper successfully.

The investments made into the Institute of Advanced Learning and Research, as well as the Danville Community College is a physical representation of their commitment to progress. Based on what we have witnessed from the efforts of Danville and the positive returns they have produced with every investment they have made, we would like to show our strong support and encouragement for the initiative to develop the newly proposed Center for Manufacturing Advancement that has been discussed and presented. We believe this proposal will bring together a world class workforce pipeline with a world class solutions provider for industry of all types.

We are fully prepared to commit ourselves to assisting Danville, the Institute of Advanced Learning and Research, and Danville Community College in the development of this program through technology development, advisory capacities, evaluations, or any other means necessary. KYOCERA SGS Tech Hub has a strong vested interest in seeing this program developed and we are confident that other manufacturers in the region would stand with us in strong support of such an asset, as it is a vital component to the success for all in the region. I invite you to reach out to me if I can offer any additional information or if you have any questions.

Thank You,

Jason S. Wells
President - CEO
KYOCERA SGS Tech Hub, LLC
434.265.6582
wellsj@kyocera-sgstool.com



October 2, 2017

Mr. Mark Gignac
Interim Executive Director
Institute for Advanced Learning & Research
150 Slayton Ave.
Danville, VA 24540

Dear Mark,

Unison Ltd was established in 1973 to design and build computerized control systems but then grew the business to include a full range of all-electric tube bending machines, software and automation equipment. Listening and being responsive to our customer's needs is at the heart of our business model and our successful growth. Currently we serve customers in a broad array of industries including aerospace, automotive, marine, energy and oil and gas.

Recently, we announced plans to establish a new manufacturing center in the Danville / Pittsylvania County region and are excited about the future of this new partnership. The region's commitment to supporting manufacturing and its demonstrated investments in a world-class workforce pipeline was a key influencer in our decision to locate in this community.

The newly proposed Center for Manufacturing Advancement will form an even greater benefit for manufacturers locating into the area as it provides an ability to quickly launch their operations, saving both time and significant cost. Additionally, the provision of a space in this new center for process improvements and demonstrating new products will be invaluable as it will provide a level of confidence in our ability to successfully grow our US customer base and compete in global markets.

We would like to express our support for this program and urge the Commonwealth of Virginia and other local funding bodies to support this important new capability.

Very sincerely,

Dale Coates, PhD
Vice President
Unison Tube, North American Sales Office of Unison Ltd

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Eastfield, Scarborough, North Yorkshire
United Kingdom YO11 3UY (Company Reg: 1105991)
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Renishaw Inc
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Tel (847) 286-9953
Fax (847) 286-9974
www.renishaw.com



Monday October 2nd, 2017

To: Mark Gignac
Interim Executive Director
Institute for Advanced Learning & Research
150 Slayton Ave., Danville, VA 24540

Dear Mark,

Renishaw is one of the world's leading engineering and scientific technology companies, with expertise in precision measurement and healthcare. The Renishaw Group currently has more than 70 offices in 35 countries, with over 4,000 employees worldwide. We supply products and services used in applications as diverse as jet engine and wind turbine manufacture, all the way through to dentistry and brain surgery. Renishaw is also a world leader in the field of additive manufacturing, also referred to as metal 3D printing. We have a long-term commitment to developing people and innovation as we view these as core to our success.

The shared ideals of quality, innovation, and the development of people will form the basis of a successful relationship between Danville Community College, {The Institute for Advanced Learning and Research} and Renishaw. We view the investments that have been made in technician training within your region as world-class and stand as a testament to your commitment to precision manufacturing.

The newly proposed Center for Manufacturing Advancement will be a natural progression for the region as it establishes a world-class operating environment for manufacturers and demonstrates leading technologies and techniques. Renishaw supports this proposal and appreciates the value of such a center and may have interest in potentially utilizing this center to demonstrate our cutting edge products. Therefore, we fully support this program and urge state and local funding bodies to support this development as well.

Sincerely,

Howard Salt 

President Renishaw Inc