AGENDA

IALR Board of Trustees

MANUFACTURING ADVANCEMENT COMMITTEE

Thursday, May 1, 2025 - 10:45 am - Conference Room 203

I.	**Convening of Meeting** A. Welcome B. Call to Order and Confirmation of Quorum C. Call for Changes to Agenda	Mr. Ben Davenport
II.	**Approval of Minutes** A. January 30, 2025	Mr. Ben Davenport
III.	**Manufacturing Advancement Update**	Mr. Jason Wells
IV.	**Open Discussion of Concerns, Issues, and Observations**	Group
V.	**Adjournment**	Mr. Ben Davenport

Reference material included: "Advanced Manufacturing Update"

Future Committee Meetings

Future Plenary Meetings

May 15, 2025

Advanced Manufacturing Committee Members

Mr. Ben Davenport, *Chair*
Mr. David Bennett
Mr. Don Gibson
Dr. Greg Hodges
Mr. Mark Holland
Dr. Cornelius Johnson
Mr. Don Merricks, *Ex Officio*
Ms. Connie Nyholm

IALR Staff

Mr. Telly Tucker, President
Dr. John Hughes, EVP of Operations
Ms. Pam Patterson, BOT Secretary
Mr. Jason Wells

IALR BOARD OF TRUSTEES (BOT)

MANUFACTURING ADVANCEMENT COMMITTEE

Minutes – January 30, 2025 - 10:45 a.m. – Conference Room 203

Members Present	**IALR Staff Present**
Mr. Ben Davenport, *Chair*	Mr. Telly Tucker, President
Mr. David Bennett	Ms. Pam Patterson, BOT Secretary, *via Zoom*
Mr. Don Gibson	Mr. Jason Wells, EVP, Manufacturing Advancement
Dr. Greg Hodges, *via Zoom, left at 11:00 am*	
Mr. Mark Holland	**IALR Staff Unable to Attend**
Dr. Cornelius Johnson	Dr. John Hughes, Executive Vice President of Operations
Ms. Connie Nyholm	Ms. Amanda Hylton, VP, Strategic Initiatives, Man. Adv.
Members unable to attend	**Guests**
Mr. Don Merricks, *Ex Officio*	None

Call to Order / Confirmation of Quorum / Changes to the Agenda

Mr. Ben Davenport, Chair, called the meeting to order at 10:45 a.m. on Thursday, January 30, 2025. A quorum was present. There were no changes to the agenda.

Attendance of Committee Members by Electronic Communication Means

Mr. Ben Davenport announced that Dr. Greg Hodges would be attending the meeting electronically due to travel for Patrick & Henry Community College. The committee voted to allow Dr. Hodges to attend the meeting via Zoom.

- **Motion**: Mr. David Bennett made a motion to allow Dr. Hodges to attend the meeting via Zoom. Mr. Don Gibson seconded the motion. The motion passed unanimously.

The results of the vote are shown below.

Committee Members Absent	-	1
Committee Votes For	-	5
Committee Votes Against	-	0
Committee Abstentions	-	0

Approval of Minutes

- **Motion** – Mr. Mark Holland made a motion to approve the Minutes from the October 31, 2024 meeting. Ms. Connie Nyholm seconded the motion. The motion was approved by unanimous vote.

Manufacturing Advancement Update

Mr. Jason Wells presented the Manufacturing Advancement narrative report (Exhibit A).

Accelerated Training in Defense Manufacturing (ATDM)

- Staffing and Budget Update
  Mr. Jason Wells reported on the ATDM program's staffing efforts, including the addition of 11 new associates and 10 open roles. ATDM 3.0 rolled into ATDM 4.0, combining the two Into a full performance period with a total budget of $ 43.6 M. Next steps for ATDM funding through FY27 are ongoing. Long-term sustainability and cost-share models remain key topics with program leadership. Significant progress was made toward full staffing. Staffing and organizational plans for full-scale are being developed.

- Recruitment
  ATDM attended 45 recruitment events this quarter. The team received almost 1,000 new applications to process and follow up on nearly 15,000 new inquiries. With support from The work-study students and the team made over 4,000 calls to prospective students. Engagement and career placement reached 83%, with 58 new hires in MIB/DIB roles. Student services facilitated housing, exit interviews, and a community service initiative.

- ATDM Program Performance and Enrollment
  Seventy-one students graduated in December, bringing the total number of graduates to over 775. The current enrollment is 208.

- Training
  ATDM welding staff engaged with BWXT Mt. Vernon to develop a company-specific Welding curriculum that will kick off a dedicated training cohort in January. This will be the first pilot of cohorts designed to train for specific industry requirements and increase the ability of a customized curriculum.

- Industry Engagement and Job Placement Efforts
  The program's engagement with over 700 companies resulted in 157 partners sourcing students. Job fairs continued to be successful, with 35-40 companies participating regularly.

NASAM Additive Manufacturing Training

The NASAM Additive Manufacturing Training program graduated 11 students in December, totaling 30 completions for FY25 to 30. A Program Coordinator was hired to support the program. Discussions continue regarding the development of a similar training program for NAVSEA.

Defense Manufacturing Community Support Program (DMCSP)

The Defense Manufacturing Community Support Program (DMCSP) has achieved significant milestones, including 724 student enrollments in ODU coursework leading to the MfgET degree, 322 students in Danville Public Schools' 9th and 10th grade programs, 265 students in Pittsylvania County Schools' 9th and 10th grade programs and welding, and 75 students enrolled in the MfgET articulation pathway at P&HCC this fall. Additionally, GO TEC expansion efforts have impacted 8,153 students, while over 28,000 students and educators have benefited from 480 outreach visits at VSU. Program closeout visits began in December with partners, focusing on the sustainability of programs and initiatives beyond the grant award. Meanwhile, IALR continues contributing to the Commonwealth's defense manufacturing strategy sessions.

Center for Manufacturing Advancement (CMA) Updates

The Center for Manufacturing Advancement (CMA) reached key milestones for the quarter, finalizing a partnership agreement to engage new industry partners and delivering its first Optimization Partnering contract to Bechtel Plant Machinery, Inc. (BPMI) for the Navy Nuclear Propulsion Program. CMA team members explored industry trends, including AI, at the International Manufacturing Technology Show (IMTS), emphasizing the need for a dedicated AI strategy at IALR. The facility expanded significantly with new equipment, rapidly approaching full capacity, and state-approved funding to support future expansion. CMA also hosted a Manufacturing Roundtable with the Chamber of Commerce, strengthening ties with local manufacturers. Discussion included the challenges of balancing capacity between Navy projects and optimization projects for other industry partners and the need for expansion to accommodate growing demands.

Additive Manufacturing Center of Excellence (AM COE)

The Additive Manufacturing Center of Excellence (AM COE) has proposed adding a second shift to support the COE prime, Austal, ensuring sufficient capacity as sustainment efforts grow. Plans are in place for approximately 35% capacity growth in additive manufacturing, with four new machines set to arrive by spring and Philips increasing workday hours. If staffing rises accordingly, the CMA team will expand from 11 to 18 members. A formal purchase order for a Hermle machine has been confirmed and is expected to arrive this summer. This quarter, 73 Navy parts were completed, and 55 remain in the backlog awaiting subtractive processing.

Specialized Training

Work with the Gene Haas Foundation continues to focus on developing courses for robotics integration into CNC machine instruction. At the foundation's request, the HTEC teacher training program will transition to being offered exclusively during the summer starting in 2025. An analysis is underway to assess the impact of this change on current operations and revenues and develop a plan to best support this shift in the upcoming year.

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Integrated Machining Technology

The current cohort includes 14 students. Plans are underway to develop additional training to refresh the program.

Additional Highlights

The division hosted and supported a record number of tours and visits this quarter, welcoming organizations and individuals such as Siemens Energy, Naval Nuclear Labs, BWXT-Mt Vernon, the University of Akron, Trident Kings Bay Refit Facility, the Office of Legislative Affairs, Commodore Jason Deichler, IperionX, Alabama Community College Presidents, the Australian Embassy, and Capt. Matthew Hawkins. Additionally, the Government Accountability Office staff visited to learn more about Navy-supported programs, including successes, returns on investment from current funding, and plans for continued efforts. Meanwhile, the Manufacturing Advancement leadership team continues to refine metrics and reporting mechanisms to enhance operational awareness.

Open Discussion of Concerns, Issues, and Observations

No concerns, issues, or observations were discussed.

Adjournment

Mr. Davenport adjourned the meeting at 12:05 p.m.

Minutes Recorded By:	Minutes Approved By:
_____	_____
Pam Patterson BOT Secretary	Mr. Ben Davenport, Chair Advanced Manufacturing Committee
_____	_____
Date	Date

Attachments Included as Official Part of Minutes

Exhibit A - Manufacturing Advancement Narrative Report, October 18, 2024

Manufacturing Advancement Report
Jason Wells, Executive Vice President
Amanda Hylton, VP Strategic Initiatives
May 1, 2025

Personnel Updates:

- ATDM
    1. Justin Schmidt – ATDM NDT Instructor
    2. Joshua Wolf – CNC Instructor
    3. Tyler Morris – ATDM Floating Instructor
    4. Joel Nester – ATDM Industry Engagement Coordinator
    5. Daniel Hyler – ATDM Additive Manufacturing Instructor
    6. Chase Starling – ATDM Welding Technician
    7. Tatyiana Dennis – vacated the Student Support Housing role
    8. Christopher Grubb – vacated the Shift Manager role
- CMA
    1. Loudon Bendall – CMA Applications Engineer
    2. Michael Kemerer – CMA Quality Assurance Specialist
    3. Brandon Holder – vacated the Manager, Digital Manufacturing role
- Manufacturing Advancement
    1. Meredith Gregory – Assistant Director, Technology and Programs
    2. Devin Jones – NASAM Instructor
    3. Thomas Lynch – NASAM Technician
    4. Debbie Fuchs – vacated the Manager, Strategic Marketing role
    5. Lee Ann Mahan – will retire on April 30
    6. Cassidy Edwards is on maternity leave, and Lakeisha Deshazor is serving in this role temporarily
- Open Positions
    1. Vice President, Business Development
    2. Contracts Manager
    3. Curriculum Development Specialist
    4. CMA Quality Manager
    5. CMA CNC Machinist II
    6. CMA CNC Machining Lead
    7. Manager, Digital Manufacturing
    8. Technical Service Engineer
    9. Vice President, ATDM
    10. ATDM Manager, Recruitment and Admission
    11. ATDM Manager, 2nd Shift
    12. ATDM Metrology Instructor
    13. ATDM NDT Instructor
    14. ATDM NDT Lab Technician
    15. ATDM Precision Manufacturing Lab Technician – multiple positions
    16. ATDM Welding Fabrication Technician

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Accelerated Training in Defense Manufacturing

- Budget and Contracting
    - ATDM 3.0 has rolled into ATDM 4.0, combining the two into one whole period of performance
        - Total Budget is $43.6M
        - Total Expended to Date is $35.8M
    - A request was presented to IALR to complete an RFP to carry funding for ATDM through FY29.
        - This proposal is due on May 5
- Staffing
    - Meetings were held with Tom Loehr and leadership to discuss organizational planning for ATDM to carry towards full-scale operations
    - Some proposals for improved efficiency and better alignment of staff are currently underway – optimal use of existing staff
- Recruitment
    - The team participated in 29 events this quarter.
    - This quarter, the team received almost over 750 new applications to process and followed up on over 8,500 new inquiries.
    - Students have come from 47 states plus Washington D.C., Puerto Rico, Australia, and Guam.
    - With support from the work study students, the team made over 1,500 calls to prospective students.
    - The team successfully recruited 116 students for the April 7 cohort, exceeding the goal of 108.
- Training
    - 98 students graduated in March, bringing the total number of graduates to date over 870.
    - 91 students started with a new cohort in January
    - Current enrollment to date is 180.
    - Graduation for the first class of CY25 (Cohort 25A) and first class fulltime in the new building will be May 6.
    - We will not achieve the 1000 graduate mark until the most recent cohort graduates in August 2025.
- Industry Engagement
    - 120 new companies were engaged during this quarter.
    - The team made 25 offsite supplier visits this quarter and hosted 15 companies onsite.
    - The team participated in the BPMI Symposium with more than 50 companies present, and met with companies at the ATDM Career Fair
    - ATDM is now recognized as a Facilitator within the Talent Pipeline Program, along with organizations such as the Submarine Industrial Base Council, Aircraft Carrier Industrial Base Coalition, Marine Machinery

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Association, and Naval Submarine League, deepening its presence in the defense manufacturing community.

- Career Services
    - 210 career-seeking students were placed in MIB/DIB jobs in January, February and March.
    - The current program placement rate is more than 75% for students completing ATDM.
    - January's Career Fair featured 22 companies and the Career Fair in March hosted 20 companies.
    - The team coordinated on-site interviews for 8 companies.
    - One company, BAE, hired 11 students from welding – acquiring an entire cohort
    - The team supported more than 50 students requiring relocation and interview support services during the quarter.
- Student Services
    - The team provided various support services to more than 120 students during the quarter.
    - The team coordinated community support for students during the quarter of almost $2,000.
- Community Engagement
    - Students and staff completed more than 20 hours of community service during the quarter.
    - More than 40 students and staff participated in seven community and volunteer services opportunities.
    - Efforts are now seeing organizations proactively reaching out to connect.
- Dedicated Training Facility
    - Construction remains on schedule for Phase Two of the building which will house the administration and support services for ATDM.
    - The project is trending for December completion with a January move in.
    - Staff and students have moved into the training portion of the facility, with all five training tracks moved as of March.
    - Planning efforts are ongoing for managing the repair and erection of the USS Buffalo monument to be placed in front of the NTC.
- Other Highlights/Items to Note
    - Salesforce integration with Cloud for Good is ahead of schedule, with an initial "go live" date at the end of June. The skill sets of Cheryl Dalton have proven instrumental in deployment.
    - The team accepted and is nearing completion of an RFP from Bechtel Plant Machinery, Inc. (BPMI) to support a workforce training study around ATDM.
    - BlueForge Alliance, in collaboration with BuildSubmarines.com, significantly reduced the number of inquiries submitted to the Recruitment and Admissions team, which will, over time, impact the overall recruiting efforts and strategy.

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- The number of industry-sponsored students remains steady or slowly declining, highlighting an area where anticipated growth hasn't materialized. Efforts to gain better insights are ongoing.
- BWXT sponsored the first entire cohort through a modified welding training program, but the Navy did not respond positively to this proactive action, and we must work through this.
- Using feedback from the staff and key stakeholders, the program is currently focused on defining its culture through vision, mission statements, and guiding principles.
- Many actions siloed through rapid growth and structure are being addressed and lifted to be supported at a department level to keep resources focused, leverage strengths across programs, and provide better KPI/visibility to manage effectively.
- ATDM engaged in an off-site management meeting and a very strong gap analysis exercise to identify challenges needing to be addressed.
- There is a lot of work is being conducted around curriculum, seeking opportunities to better package it within the Learning Management System (LMS) and potentially compressing it a bit further.
- Current priority is identifying a permanent VP for ATDM – a critical role that cannot afford a coverage gap.
- Lots of activity around the Summit, worried about current restrictions on government travel and impact on attendance; however, continue to confirm speakers and panelists.
- Starting to see some challenges in filling Computer Numerical Control (CNC), which we need to pay close attention to – must continue to ramp to Full Operational Capacity (FOC), so we must identify roadblocks.
- Efforts continue around accreditation and prove to be a huge resource suck but also try to validate value to program.

NASAM Additive Manufacturing Training

- This quarter, 17 students began the NASAM program: 9 in January and 8 in February. All have completed it, and the program is 35% complete, which means it is 35% complete in meeting its annual enrollment goal.
- NASAM hired a Program Coordinator to support the program and will assume many responsibilities previously supported by the ATDM recruitment and student services team.
- There continue to be strong discussions, including budget development requests, with Nav Sea to establish a program similar to NASAM for their needs.
- The NASAM program has received verbal confirmation of continued funding for FY26. Budgets are in development.

Defense Manufacturing Community Support Program (DMCSP)

- Total student enrollments to date: 869 students in Old Dominion University (ODU) coursework leading to MfgET degree; 322 in Danville Public Schools 9th and 10th

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grade programs; 265 in Pittsylvania County Schools 9th and 10th grand programs and welding; 9,562 impacted by GO TEC expansion efforts; Over 28,000 students and educators impacted by over 480 outreach visits at (Virginia State University (VSU); 75 students enrolled in the Manufacturing Engineering Technology (MfgET) articulation pathway at Patrick & Henry Community College (P&HCC) and 8 graduating in the fall; Spring P&HCC enrollment is 60.

- The final quarterly report was submitted at the end of March, as the official end date of the grant was March 31. A closeout impact report will be submitted in April.
- An articulation agreement has been finalized between Danville Community College (DCC) and (Old Dominion University (ODU) for students wishing to earn a MfgET pathway through the Integrated Machining Technology program. An official signing ceremony will be scheduled in April.
- IALR continues to participate in the Commonwealth's defense manufacturing strategy sessions.

Center for Manufacturing Advancement (CMA)

- The CMA hosted over 650 visitors this quarter.
- Government-restricted travel has seen a decrease in visits for March/April.
- Partnership opportunity discussions were held with eight entities.
- The team made various visits to Aerofarms (automation), GROB (machine partnership), Cobot demonstration (welding), and MasterCam training.
- An optimization project with BWXT Mt. Vernon was finalized with work to begin in April.
- The proposal submitted by IperionX was not funded, but there is interest in the continued pursuit of this project to support their development of automated processes.
- The CMA has moved forward with plans to initiate a second shift and positions have been posted.
- An MOU was provided to DCC to support automation and robotics training through the Industry 4.0 lab.
- A partnership agreement was finalized with Mitutoyo to share lab space and cost within the CMA, including the promotion of contract services.
- Efforts continue on the expansion of the building and the A&E to support it.
- Looking to engage in a more structured plan to move forward with Optimization via proforma budget, equipment considerations, and use of unused Danville Regional Foundation (DRF) funds to bring back to the original CMA vision pre-CoE; Tom Loehr consulting.
- Leadership engaged with Tom Loehr on a structured plan to support optimization, including a pro forma budget, equipment, and funding considerations.
- The CMA is finalizing details on a partnership agreement with a top-level machine tool builder. The agreement would involve a very large financial commitment, along with some joint projects and training opportunities.
- The Industry 4.0 end-to-end capability has been completed.

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- Looking to add a senior-level leadership position in CMA to guide growth, ensure targets are being met, mentor young team, and provide additional engineering bandwidth, as this Level of Effort (LOE) has the best potential for strong industry revenue growth, but needs consistent and constant day-to-day leadership interaction.

Additive Manufacturing Center of Excellence (AM COE)

- The CMA team machined over 50 parts during the quarter supporting the AMCOE.
- An Austal FSO (Facility Security Officer) completed a security review of the CMA during March to review concerns.
- Additional tour protocols were implemented to support productivity, including increased security and a decrease in tour frequency.
- The Hermle machine and Navy asset for subtractive is due to arrive in June.
- Austal is currently exploring a Manufacturing Execution System (MES) integration across all partners to connect end-to-end digitally and gain greater visibility.

Specialized Training

- Conversations are underway to transition the Haas Technical Education Community (HTEC) training program under the leadership of DCC to support these efforts better.

Integrated Machining Technology (IMT)

- There are currently 14 students in the current cohort.
- Plans are underway to develop additional training to refresh the training program.
- Jason Wells participated in the most recent advisory council meeting for IMT to support the next steps in development.
- Currently seeking grant opportunities to evolve the program to include AM capabilities and start a digital aspect of the training.
- Working with DCC to strengthen collaborations and increase conversations to grow this program and others better.

Additional Highlights

- The division attended numerous conferences and meetings in support of the mission:
    - Submarine Industrial Base Council's annual Supplier's Day conference, where Matt Sermon, Executive Director of Navy's Maritime Industrial Base, highlighted both ATDM and AMCOE.
    - Military Additive Manufacturing (MILAM) Summit Conference
    - Telly Tucker served on a panel at the SME Rapid + TCT
    - Attended Close-Out meetings with DMCSP partners: ODU, P&HCC, Pittsylvania County Schools (PCS), Danville Public Schools (DPS), and Halifax County Public Schools (HCPS)

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- The division continued to host and support record numbers of tours and visits during the quarter, including the following:
    - Bechtel Plant Machinery, Inc. (BPMI) Supplier Symposium – roughly 50 companies attended
    - Hosted the Global President of Mitutoyo, as well as the Presidents of Mitutoyo Americas and Germany
    - National meeting for Edison Welding Institute
    - Austal's Australian leadership visited and met with the team
- The current focus on strategic planning for the division is centered on the development of digital strategy and a team to support integration of Artificial Intelligence (AI), Augmented Reality/Virtual Reality (AR/VR), machine learning, digital twin, digital thread, cyber security, and other advanced technologies.
- The Manufacturing Advancement leadership team continues to refine metrics and reporting mechanisms to help strengthen operational awareness.

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Contributions to the Strategic Plan

- **Accelerated Training in Defense Manufacturing**
    - Center of Excellence for Education & Workforce Development – ATDM is the pilot for a national network of accelerated training programs aimed at reducing "time-to-talent" for the defense industrial base (DIB) and filling critical skills gaps in defense manufacturing. As a national-in and national-out training platform, it partners with recruiting sources and industries nationwide
    - Globally Competitive Ecosystem – ATDM provides a robust level of industry engagement that allows industry to send students for training and place students in employment. As with previous models, such as Integrated Machining Technology, it has been shown that industry is interested in locating near training facilities to recruit workers at velocity and scale, which ATDM will produce. These trained individuals will support a workforce pipeline that will make the region more globally competitive
    - Collaborative Team Success – ATDM relies on external partnerships with recruitment sources, job placement entities, industry and technology partners. The multiple subcontractors involved in making the training a success provide opportunities to collaborate with other internal divisions

- **Defense Manufacturing Community Support Program**
    - Virginia's Go-To Partner for Business and Economic Growth – DMCSP supports the Virginia Maritime Industrial Base Consortium (VMIBC) as a leading hub for developing skilled workers and the engineering workforce for the maritime industry in Virginia; supports local, regional, state, and national economic development through the designation as a Defense Manufacturing Community (DMC) and the collaborative partnerships created through the VMIBC; IALR serves as the convener of partners to execute the DMCSP grant, providing the ability of IALR to be the go-to partner for the Virginia Department of Veterans and Defense Affairs in developing and enhancing workforce development pipelines that support Virginia's business and economic growth plans
    - Center of Excellence for Education & Workforce Development – DMCSP supports education & workforce development through the DMC ecosystem which provides a K-12 to university and beyond workforce training system. This includes career connections, high school, community college, university and adult learner options for training students to support the Virginia maritime industry. DMCSP creates a pipeline for manufacturing engineering technologists and provides continuous improvement into training programs that rely on industry needs. The mission of the VMIBC (the designated DMC community) is to increase manufacturing capacity, capability, resiliency, and diversity in the maritime industrial base by creating a cross-region K-12 to university training pipeline for skilled workers and manufacturing engineers
    - Globally Competitive Ecosystem – DMCSP advances and connects

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businesses in the region through a strong collaborative network of industry, government and academia. DMCSP will increase the supply of skilled labor and manufacturing engineers that will help to close manufacturing skills gaps, address manpower shortages, build manufacturing capacity and capability, and modernize the workforce to enable the industrial base to fully support the Navy's sustainment and shipbuilding needs. This will position the Commonwealth to be globally competitive in attracting manufacturing industries that are aligned to the skills within the pipeline

- Collaborative Team Success – DMCSP strengthens collaborative, regional education partnerships (ODU, P&HCC, Virginia State University and K-12 school divisions in Southern Virginia and Hampton Roads) and supports internal collaboration through the integration and expansion of GO TEC into the Hampton Roads region through the DMCSP partnership

- **NASAM**
  - Center of Excellence for Education & Workforce Development – Through efforts connected with ATDM, the Naval Aviation School of Additive Manufacturing will support active-duty military with Additive Manufacturing (AM) training directly related to Navy needs. These connections will also support the US Navy's effort to modernize the workforce and prepare for increasing AM production

- **Center for Manufacturing Advancement**
  - Virginia's Go-To Partner for Business and Economic Growth – The CMA supports Virginia manufacturers in their pursuit of manufacturing optimization and innovation. The CMA offers technical expertise, lab space, equipment and a collaborative environment to help existing and new Virginia manufacturers increase productivity that has direct economic impact. The CMA serves as a centralized resource of emerging, production ready technologies to help drive the success of Virginia manufacturers. The US Navy AM Center of Excellence within the CMA is expected to support additional companies in their ability to produce AM parts for Navy submarines, including companies in Virginia
  - Center of Excellence for Education & Workforce Development – Through efforts connected with ATDM, the CMA's AM COE will connect ATDM graduates with Additive Manufacturing (AM) jobs directly related to the Submarine Industrial Base (SIB). These connections will support the recruitment and placement efforts of ATDM. These connections will also support the US Navy and the SIB's effort to modernize the workforce and prepare for increasing AM production
  - Globally Competitive Ecosystem – The CMA will allow businesses in Virginia to be globally competitive through innovations in current and new manufacturing processes. The AM COE at CMA will also support a globally competitive ecosystem through development of innovative additive manufacturing strategies, technical data and processes

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- Collaborative Team Success - The CMA serves as the go-to hub for manufacturing advancement and innovation for Virginia businesses and beyond. The CMA will bring internal and external partners together to form a cohesive group of manufacturing experts, technical partners, business leaders and government officials. These partnerships and collaboration will drive the projects and programs at the CMA. The projects and programs will lead to positive return on investment for IALR and project partners. Revenue generated through CMA projects will help support the Manufacturing Advancement division as a whole and help provide the required resources to remain industry relevant and globally competitive

- **Specialized Training**
  - Virginia's Go-To Partner for Business and Economic Growth – As one of four HTEC training centers in the country, IALR serves as the Go-To teacher training facility for Virginia
  - Center of Excellence for Education & Workforce Development – The mission of HTEC is to provide a collaborative space in which we collectively develop, deliver, and disseminate the best educational methods and techniques for CNC education in the world. The goal is to drive the upskilling of manufacturing educators, and transform CNC classrooms into modern, high-tech advanced manufacturing labs that both encourage students to seek successful careers in CNC and related fields and ensure that these students are well-equipped when they enter the field. The goal of specialized training within the manufacturing advancement department is to be the Go-To training provider on CNC and related machine technologies, including the upcoming Industry 4.0 integrations within the CMA
  - Globally Competitive Ecosystem – As a partner for the HTEC network and Phillips Corporation, the training facility at IALR serves as a global benchmark as Haas expands into other countries and provides the potential to be a train-the-trainer provider for global Haas activity

- **Integrated Machining Technology**
  - Virginia's Go-To Partner for Business and Economic Growth – IMT has supported extensive business and economic growth in the region by highlighting the ability of the region to train a workforce that can meet demands at multiple levels, from the work floor technician to front line management and beyond. The IMT program is the advanced level training and culmination of the workforce pipeline that begins in middle school. It has been identified as one of the reasons that multiple companies have located in the region and has been the catalyst for allowing IALR to support these companies through rapid launch space and concierge services
  - Center of Excellence for Education & Workforce Development – The IMT program has been a national benchmark for advanced training in CNC machining for years and delegations from multiple states and countries

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have visited to learn more about how to execute similar programs. The continuous improvement and adoption of current technology allows this program to support the strategic goal of being a center for excellence for education & workforce development

- Globally Competitive Ecosystem – Technology in manufacturing is rapidly evolving. Providing relevant training in support of industry needs is critical as technology and processes continue to modernize. It is a key factor in providing a globally competitive ecosystem. IMT supports this goal by remaining at the forefront of technology and training and ensuring that students can enter the workforce and provide innovative solutions to workforce challenges

- **Additional Contributions to the Strategic Plan**
  - Excellence in Board Leadership - All projects strive for transparency with the Board by providing needs, successes and areas of support required that allow the board to serve as community champions, share successes and stories and support public and private funding support which promotes excellence in board leadership as the board carries out these strategic activities
  - Strategic Expansion of Applied Research and Culture of Learning - The Manufacturing Advancement division encapsulates a culture of learning in all projects. It fosters innovation and encourages continued efforts to remain current on the knowledge of existing and emerging

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