



AGENDA

IALR Board of Trustees

MANUFACTURING ADVANCEMENT COMMITTEE

Thursday, May 2, 2024 - 10:45 am - Conference Room 203

- | | |
|-----------------------------------------------------------------|-------------------|
| I. Convening of Meeting | Mr. Ben Davenport |
| A. Welcome | |
| B. Call to Order and Confirmation of Quorum | |
| C. Call for Changes to Agenda | |
| II. Approval of Minutes | Mr. Ben Davenport |
| A. February 1, 2023 | |
| III. Manufacturing Advancement Update | Ms. Amanda Hylton |
| IV. Center for Manufacturing Advancement - Update | Mr. Telly Tucker |
| V. Open Discussion of Concerns, Issues, and Observations | Group |
| VI. Adjournment | Mr. Ben Davenport |

Reference material included: "Advanced Manufacturing Update"

Future Committee Meetings

Future Plenary Meetings

May 16, 2024

Advanced Manufacturing Committee Members

Mr. Ben Davenport, *Chair*
Mr. David Bennett
Mr. Don Gibson
Dr. Greg Hodges
Mr. Mark Holland
Mr. Don Merricks, *Ex Officio*
Mr. Lott Rogers
Dr. Jerry Wallace

IALR Staff

Mr. Telly Tucker, President
Dr. John Hughes, EVP of Operations
Ms. Amanda Hylton, VP of Strategic Initiatives
Ms. Pam Patterson, BOT Secretary
Mr. Tim Robertson, COO, Manufacturing Adv.



IALR BOARD OF TRUSTEES (BOT)
MANUFACTURING ADVANCEMENT COMMITTEE
Minutes – February 1, 2024 - 10:45 a.m. – Conference Room 203

<p><u>Members Present</u> Mr. Ben Davenport, <i>Chair</i> Mr. David Bennett Mr. Don Gibson Dr. Greg Hodges, <i>via Zoom</i> Mr. Mark Holland Mr. Don Merricks, <i>Ex Officio</i></p> <p><u>Members unable to attend</u> Mr. Lott Rogers Dr. Jerry Wallace</p>	<p><u>IALR Staff Present</u> Mr. Telly Tucker, President Dr. John Hughes, Executive Vice President of Operations, <i>left at 11:10 a.m.</i> Ms. Amanda Hylton, VP of Strategic Initiatives, Man. Adv. Ms. Pam Patterson, BOT Secretary & Executive Assistant Mr. Tim Robertson, MA, Chief Operating Officer</p> <p><u>IALR Staff Unable to Attend</u> None</p> <p><u>Guests</u> None</p>
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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, February 1, 2024. A quorum was present. There were no changes to the agenda.

Attendance of Committee Members by Electronic Communication Means

Mr. Davenport announced that Dr. Greg Hodges would participate electronically (via Zoom). Dr. Hodges attended via Zoom due to travel related to another appointment on his calendar. The committee voted to allow him to attend the meeting electronically.

- **Motion:** Mr. Mark Holland made a motion to allow Dr. Greg 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	-	2
Committee Votes For	-	5
Committee Votes Against	-	0
Committee Abstentions	-	0

Approval of Minutes

- **Motion** – Mr. Don Gibson made a motion to approve the Minutes from the November 2, meeting. Mr. David Bennett seconded the motion. The motion was approved by unanimous vote.

Manufacturing Advancement Update

Mr. Tim Robertson presented the Manufacturing Advancement narrative report (Exhibit A). The report outlined personnel updates, program updates, and contributions to the strategic plan at the Institute for Advanced Learning and Research (IALR). In personnel updates, various staff changes and promotions were highlighted across the Accelerated Training in Defense Manufacturing (ATDM), Center for Manufacturing Advancement (CMA), and other departments. Numerous open positions emphasized the ongoing recruitment efforts.

Under Accelerated Training in Defense Manufacturing, the budget and contracting status of ATDM 3.0 were detailed, including invoiced amounts and a 5-year development plan for ongoing funding. Tiger Teams have been established to support programmatic activities, and a staffing realignment proposal was approved. Recruitment processes continue to evolve, with a substantial number of active applications.

The NAVAIR Additive Manufacturing Training program has progressed, with new equipment training completed and a scheduled start date. The US Navy officially named the program Naval Aviation Schoolhouse for Additive Manufacturing (NASAM).

The Defense Manufacturing Community Support Program (DMCSP) included updates on enrollments, partnerships, and expansion efforts. The report provides insights into the Center for Manufacturing Advancement, the Additive Manufacturing Center of Excellence (AM COE), and specialized training, emphasizing their roles in supporting Virginia's business and economic growth.

Contributions to the strategic plan were detailed for each department, emphasizing their roles as Virginia's go-to partner for business and economic growth, centers of excellence for education and workforce development, contributors to a globally competitive ecosystem, and examples of collaborative team success. The report highlighted additional contributions to the strategic plan, including excellence in board leadership, and the strategic expansion of applied research, and a culture of learning within the Manufacturing Advancement division.

Mr. Davenport applauded the efforts of the Manufacturing Advancement team.

Center for Manufacturing Advancement (CMA) Update

Mr. Telly Tucker commented that the CMA Update had already been covered in the Manufacturing Advancement report.

Open Discussion of Concerns, Issues, and Observations

No concerns, issues, or observations were discussed.

Adjournment

Mr. Davenport adjourned the meeting at 11:43 a.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

Exhibit B – Manufacturing Advancement Quad Chart Report

Manufacturing Advancement Report
Amanda Hylton, VP Strategic Initiatives
Tim Robertson, COO
April 15, 2024

Personnel Updates:

- ATDM
 1. Austen Roten – Precision Manufacturing Technician
 2. Andrew Anderson – Precision Manufacturing Technician
 3. Colby King – Welding Technician
 4. Tyler Gauldin – Precision Manufacturing Technician
 5. Holly Lyle – Metrology Technician
- CMA
 1. Darryl Murphy – CNC Machinist II
 2. Andrew Williams – Process Engineer
- Manufacturing Advancement
 1. Shawn Dolph- Specialized Trainer
 2. Ryan Benedetto – NASAM Additive Manufacturing Technician
- Open Positions
 1. EVP, Manufacturing Advancement
 2. Administrative Support, Manufacturing Advancement
 3. ATDM Manufacturing Industry Representative
 4. ATDM NDT Instructor – 2 positions
 5. ATDM NDT Lab Technician
 6. ATDM Job Placement Coordinator
 7. ATDM Admissions Advisor
 8. ATDM Precision Manufacturing Technician
 9. ATDM Student Support Specialist
 10. ATDM Welding Instructor
 11. ATDM CNC Machining Instructor

Accelerated Training in Defense Manufacturing

- Budget and Contracting
 - ATDM 3.0 is underway with \$13.4M being invoiced to date of the full \$21.2M
 - \$14.1M expended to date
 - The RTC/NTC bid proposal for Phase II and value engineering has been completed, additional next steps are being completed to finalize the contract with ACC-RI (our contracting group)
 - Total funded to date is \$56.9M
 - A proposal for staffing and operations for the next 5 years for ATDM and the RTC/NTC has been submitted and we are awaiting a response from the lead on the proposal

- Tiger Teams
 - Tiger Teams have made significant improvements in processes for ATDM. These include: automation processes for recruitment, admissions portals for students to submit paperwork, data collection standardization, data analysis simplification, student experience survey enhancements, website redevelopment and improved functionality, and the development of a comprehensive marketing strategy to support scaling
- Staffing
 - Staffing requirements for the next phases of the proposal are being developed
 - Ways to streamline the hiring process to help support line of effort needs are being explored
- Recruitment
 - Automations and student admissions portals have greatly improved the ability of staff to respond to the number of leads and active applications
 - The team is attending on average two to three recruitment events per week
 - 773 active applications; 11,318 active leads/inquiries
- Training
 - 81 students graduated on February 2 from the 9th cohort
 - 59 Students graduated from the 10th cohort, which completed on March 29
 - The February cohort started with 104 students
 - The April cohort started with 85 students
- Industry Engagement
 - Additional processes being developed to support an increase in the number of participating companies
 - 50 new companies were engaged during this quarter
 - 67 students were placed in SIB/DIB jobs in November and December
 - ATDM staff has engaged with over 283 companies to date, with 112 sponsoring and/or recruiting candidates
 - The ATDM Career Fair was held in March
 - Ray Montgomery has been contracted to provide industry engagement support for the team, and to date, has helped to coordinate four association and coalition visits to connect with industry
 - The team is fielding increased requests for participation for industry as a result of these efforts
- Student Services
 - Held meet and greet for new students for each of the incoming cohorts
 - Coordinated housing for all new and incoming students, as well as exit interviews and inspections for all graduating students
 - Supported over 60 unique student service needs in addition to student transition support upon completion and engaged with 6 local community organizations

- Dedicated Training Facility
 - Construction remains on schedule
 - Work continues to complete the contract for the second phase of construction
- Other Highlights
 - The ATDM logo was featured on the hood of the #17 BuildSubmarines car at the Martinsville race. 10 staff were in attendance, along with 10 students who were invited to attend. The recruitment team, in partnership with Fairlead and the GO TEC staff, were represented in the FanZone
 - ATDM is working with BuildSubmarines to have a presence at additional races this year, including Charlotte in May, Richmond in August, and Martinsville again in November. We are also exploring ways to leverage their attendance at key events, as well as other announced partnerships including MLB.

NASAM Additive Manufacturing Training

- First cohort completed in March
- Second cohort underway
- Will train 96 sailors and marines every year with 12 students per cohort every 6 weeks at scale
- Through work with NAVAIR, an additional 2-week training option has been added for sailors that are unable to step away from current duties for full program duration.
- Work is ongoing to finalize funding to continue this training through FY25
- A similar program for active duty through NAVSEA is being explored
- NASAM hosted an open house on March 5 with NAVAIR leadership attending and touring the training and the CMA

Defense Manufacturing Community Support Program (DMCSP)

- Total student enrollments to date: 494 students in ODU coursework leading to MfgET degree; 185 in Danville Public Schools 9th and 10th grade programs; 150 in Pittsylvania County Schools 9th and 10th grand programs and welding; 8,153 impacted by GO TEC expansion efforts; 23,181 students and educators impacted by 393 outreach visits at VSU
- The Office of Veterans and Defense Affairs continues to work to coordinate a visit from the new federal program manager tentatively scheduled for May 8
- A whitepaper to outline next phases of the DMCSP grant and Defense Manufacturing Community designation renewal has been submitted to our state liaison in the Office of Veterans and Defense Affairs
- VSU hosted the First Chesapeake Robotics Championship as part of the DMCSP outreach efforts and hosted all the partners for the VMIBC for the event

- The MfgET 4-year curriculum is 100% complete and has been finalized for deployment
- The P&HCC curriculum is 100% complete and is an approved program for Fall 24

Center for Manufacturing Advancement: First Year Status Report

- 10 Full time IALR employees onboarded (capacity)
- All equipment purchased and installed; over 40 unique pieces
- ISO Quality Management System written, approved, and implemented
- 1000+ Visitors
- All 5 bays are currently under lease
- CMA staff invited to present at International Manufacturing Technology Show (IMTS)
- Optimization projects in progress (Los Alamos National Lab)
- Supported design/manufacturability of 114 Navy parts; machined and inspected 45
- Established strategic goals

Additive Manufacturing Center of Excellence (AM COE)

- IALR has processed 45 parts through the CNC Innovation Lab for the US Navy
- IALR have provided technical review for 114 AMCOE parts
- An additional 40 parts for the US Navy are in various stages of production
- AMCOE has an additional 40+ special request parts in que

Specialized Training

- Shawn Dolph has been selected as the Specialized Trainer
- The training schedule for the 2024 year has been finalized and registrations are open for the first training sessions in May
- Work with the Gene Haas Foundation has begun to develop courses for robotics integration into CNC machine instruction
- The team is working to submit a hybrid AM workshop for presentation at the HTEC Americas conference in July

Integrated Machining Technology

- Robotics & Automation integration will be supported in the CMA Industry 4.0 lab starting in March 2024. Butch Kendrick is leading this effort. This is a substantial step forward for the Integrated Machining Technology Program
- IALR has worked closely with Melissa Mann (Dean of Workforce Services) and Dr. Johnson (VP of Academics) at DCC to give a historical perspective of the importance of the Integrated Machining Technology Program. A regular meeting cadence between IALR and DCC leadership has been established to ensure program alignment
- The 9th cohort of graduates completed the program in March. There were 12 completers

Key Highlights this Quarter

- 19 companies participated in the March ATDM Career Fair and 17 participated in the January Career Fair
- ATDM has supported five companies on site and visited nine companies this quarter

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 – DMCSPP 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 DMCSPP 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 – DMCSPP 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. DMCSPP

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 – DMCSPP advances and connects businesses in the region through a strong collaborative network of industry, government and academia. DMCSPP 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 – DMCSPP 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 DMCSPP partnership

- **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

- 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

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