



IYRS School of Marine Trades & Advanced Technologies Presentation to the RI House
Finance Committee

April 30, 2026

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IYRS School of Marine Trades & Advanced Technologies Presentation to the RI House Finance Committee April 30, 2026, IYRS plans the following speakers in this order:

1. **Who – Kern Maass – President of IYRS** explains IYRS, our graduation success; why investing in IYRS is a good investment for: our state, our composite manufacturing companies, and building jobs for our citizens; The How: we teach our students to become Floor Technicians who learn a factory floor technology SYSTEM versus a Trade Skill like welding.

2. Kern to introduce for the record - **Recognized Long-Term Need since 2018 – Christian Cowan – Executive Director of The URI Research Foundation – Letter of Support –** Polaris MEP > Believes that IYRS can help our 75 composite customers expand their technical expertise and increase their competitive technical differentiation. Christian Cowen identified this workforce development need in 2018.

3. Kern to introduce for the record - **Support – Darya Blout – Founder – Owner – Manufacturer – Deep Blue Composites.**

4. **Why – IYRS Student – Rupert Daniel – Chief Warrant Officer III and Special Forces Warrant Officer/Green Beret**

5. **What – John Brooks – IYRS Trustee – IYRS Board Representative > why the \$2.0 million state funding in the amendment is needed. Summary of the key points underpinning House Bill No. 8313**

Newer composite technology shifts require training programs & equipment to match the production & testing needs of our composite hiring manufacturing customers and the advancements in their industry.

• **John Hammel – IYRS Director of Composites and Advanced Manufacturing** will be available for Committee members to ask program and technical questions.

From: Kern Maass – President of IYRS
To: The House Finance Committee Hearing
Hearing: House Bill #8313
Hearing Date: 4/30/26
On Behalf of: IYRS School of Marine Trades & Advanced Technologies

Why IYRS Matters — and Why the Model Works

IYRS School of Technology & Trades is the only nonprofit, post-secondary career school in Rhode Island recognized by the Department of Education. We deliver hands-on, technically rigorous training in advanced manufacturing, composites, and marine systems, preparing students for real careers and supplying industry with job-ready technicians, not theory alone. In addition to technical training, we emphasize leadership, safety, and professional skills.

Southern New England faces accelerating demand for composites technicians driven by defense, marine autonomy, aerospace, and advanced manufacturing. Roughly 150 composites-related companies operate across Rhode Island, Connecticut, Massachusetts, and New Hampshire, with nearly half located in Rhode Island. Employer demand is constrained not by capital, but by skilled labor availability. Conservative analysis projects demand for approximately 1,600 new composites production roles annually, excluding the growing impact of an aging workforce, with average ages near 55 in manufacturing and 49 in the marine trades.

What distinguishes IYRS is outcomes. Graduates leave job-ready, with strong safety discipline, technical confidence, and problem-solving skills. IYRS maintains rolling averages of 85% retention, 85% graduation, and 90% job placement, including our existing composites program. These outcomes outperform traditional pathways. Despite operating at a smaller scale, IYRS produces more technicians for Rhode Island employers than all comparable in-state programs combined.

In short, we produce technicians who contribute on day one, grow faster over time, and sustain longer careers. Twenty-five percent of our adult learners bring military or veteran experience, strengthening leadership, accountability, and performance on the shop floor.

Why Investing in IYRS Is a Smart Investment

For the State of Rhode Island

IYRS is a high-ROI workforce solution. Manufacturing remains one of the state's largest private-sector employers, yet skilled labor shortages are the primary barrier to growth. IYRS produces technicians faster, at lower cost, and with stronger employment outcomes than traditional degree pathways, keeping jobs in Rhode Island, attracting advanced

manufacturers, and strengthening economic resilience in defense and high-value manufacturing.

For Composite Manufacturing Companies

IYRS is not just a school, it is a talent pipeline and systems partner. Graduates understand materials, processes, quality, safety, and workflow across the full production environment. This reduces onboarding time, lowers error rates, and shortens time-to-productivity, while enabling companies to scale with automation, AI, and advanced materials.

The **\$2M request** will:

- Expand advanced composites training capacity
- Modernize equipment to match current production environments
- Train students on the same systems used by Rhode Island manufacturers

For Rhode Island Workers & Families

IYRS creates accessible, upwardly mobile careers. Students gain industry-recognized skills in months, not years, and enter roles with real advancement potential, without requiring a four-year degree. While 60–65% of students come from out of state, 35–40% remain in Rhode Island after graduation, exceeding in-state retention rates of traditional institutions.

The “How”: Floor Technicians, Not Task Workers

IYRS trains Floor Technicians, not single-task operators. Graduates understand the entire factory-floor system, from materials and equipment to digital models, quality control, safety, workflow, and communication. They function as technical leaders on the shop floor, able to execute, troubleshoot, adapt, and lead in real production environments.

In Closing

An investment in IYRS is not an education expense, it is a workforce and economic development investment that strengthens Rhode Island companies, supports families, and delivers measurable return to the state.

IYRS School of Marine Trades and Advanced Technologies Summary

Business Rational – House Bill # 8313

\$2.0 million Rhode Island Bond - Post Secondary Education Bond

- IYRS has committed to raising \$4.0 million to make its Composites Training Program the leading advanced technical education center on the East Coast
- The technologies for resins, high speed processing, new materials, new equipment, software programs and AI have been technically exploding at high speed for the past ten years. For the sake of our students and our hiring customers, IYRS must catch up with these changes!
- IYRS needs to invest heavily in all phases of multiple composite production processes to assure our 75 RI composite manufacturers that our IYRS students will be able to help them work with these new technologies, help their companies become more competitive nationally and more profitable, while expanding their operations and hiring. RI is the center of the offshore Defense economy, and our students must be prepared to support all phases of marine composites.
- Making composites for defense, marine, and commercial operations is a perfect fit for RI. Manufacturing composite products is technically complex, focused on high value-added parts and capable of paying solid RI wages and salaries.
- In addition to the \$2.0 million requested from the State of RI on House Bill No. 8313, IYRS will raise an additional \$2.0 million from our Board, foundations, and Industry Partners. The State of Rhode Island's bond request for IYRS will be in use and deliver recognizable returns to the skilled workforce for industry and students alike within one year.
- On May 8th, our Executive Board Committee will request that all Board members support our Composites Campaign as it is strategic to the future of our school.
- Some of our new equipment requires large deposits and lead-times of nine months to a year for training and delivery. We will both raise money and borrow funds to get our new composites program off the ground quickly while waiting for the State Bond money.
- A well-equipped IYRS, with a new solid academic program, and new advanced degreed professors will provide enough highly trained students in production process and advanced manufacturing to support our existing 75 RI composite manufacturing companies with 1,600 highly trained employees between now and 2030; and attract other composite manufacturing companies to relocate to RI to join our composite cluster & hire our highly trained workforce.



March 3, 2026

The Honorable Members of the Rhode Island General Assembly
c/o Rhode Island Office of Management and Budget
Providence, Rhode Island

RE: Support for \$2 Million in State Capital Funding for Advanced Composites Equipment at IYRS

Dear Members of the General Assembly,

On behalf of **Core Composites**, I am writing to express our strong support for the proposed \$2 million state investment in advanced composites equipment at the IYRS School of Technology & Trades.

Core Composites supplies core materials, resin-infusion systems, and composite solutions used by boatbuilders, marine manufacturers, and advanced fabrication shops across Rhode Island and New England. Our customers depend on a skilled workforce capable of working with modern composite processes—vacuum infusion, laminating, core bonding, and advanced materials handling. The quality and reliability of Rhode Island’s marine and composites sector rely heavily on the availability of trained technicians.

IYRS plays a critical role in sustaining that workforce. Its graduates arrive with the hands-on skills, safety awareness, and process understanding that our industry needs. However, for IYRS to continue training students to current industry standards, the school must have access to updated curing, fabrication, and testing equipment that reflects today’s production environments.

The proposed capital investment will directly strengthen Rhode Island’s marine trades and composites economy by expanding the pipeline of job-ready technicians and supporting the companies that depend on them.

Core Composites strongly encourages the General Assembly to include this funding in the upcoming state budget.

Thank you for your consideration and for your commitment to Rhode Island’s manufacturing and marine industries.

Sincerely,

Core Composites
Div. of ROM Development Corporation

A handwritten signature in blue ink that reads "Richard F O'Meara Jr".

Richard F O'Meara Jr
President/CEO
rich@corecomposites.com

March 11, 2026

Re: *Support for Capital Funding for Composites Equipment at IYRS — Advanced Composites Automation & Technology (ACAT) Center — Letter of Support*

Dear Members of the General Assembly,

Deep Blue Composites is a composites engineering and manufacturing company based in Bristol, Rhode Island, serving defense, dual-use, and autonomous systems hardware companies. We design and fabricate high-performance composite structures for undersea vehicles, aerospace platforms, and other mission-critical applications where material failure is not an option. Our work sits at the intersection of advanced materials science and precision manufacturing—exactly the disciplines the ACAT program is designed to cultivate.

Deep Blue Composites has a direct and active stake in the success of the ACAT center at IYRS. As a Rhode Island manufacturer competing for defense and autonomy contracts that demand NAVSEA- and FAA-certifiable composite structures, our greatest operational constraint is workforce. We require technicians who understand resin infusion (VARTM), autoclave and hot bonding cycles, and non-destructive testing—not after months of on-the-job remediation, but on day one. The ACAT curriculum, particularly Modules 102 (Process Engineering & Fabrication), 103 (Curing Methods & Thermodynamics), and 105 (Qualification, Testing & Quality Assurance), maps directly onto the skill sets we need in our production environment. We intend to recruit ACAT graduates and to leverage the program’s incumbent upskilling tracks to advance our existing team.

Deep Blue Composites commits to the following in support of this program:

- **Preferential hiring of ACAT graduates** for fabrication, process, and QC/NDT roles at DBC, with a target of two to four ACAT-credentialed hires in the first year of the program’s operation.
- **Participation as an industry advisory partner**, contributing real-world process requirements, quality standards, and material specifications to ensure curriculum alignment with defense and autonomous systems manufacturing.
- **Enrollment of incumbent DBC technicians** in ACAT’s Advanced Specialization tracks (Modules 104–106) as standalone upskilling credentials, directly funding the program through tuition revenue.

Rhode Island's defense and blue economy industrial base is growing faster than the workforce that sustains it. The demand for undersea autonomous vehicles, electric sea gliders, and submarine-related defense hardware is accelerating—and the companies competing for that work, including DBC, can only scale if the people to build it exist here in Rhode Island. The ACAT program is not a general workforce initiative; it is a precision instrument designed to produce the exact technical profile—materials-literate, process-fluent, certification-ready—that this industry requires. The equipment investment IYRS is seeking is the enabling infrastructure for that outcome. Without it, the curriculum cannot be delivered at the standard the defense and autonomy sectors demand, and Rhode Island loses its competitive edge to states that have already made this investment.

Deep Blue Composites strongly supports IYRS's application for capital funding to establish the Advanced Composites Automation & Technology center. This investment will produce workforce-ready technicians, directly strengthen Rhode Island's defense industrial base, and create the conditions for companies like ours to grow and remain anchored in this state. We are prepared to fulfill the commitments above and to serve as an active industry partner throughout the program's development and operation.

Please do not hesitate to contact me directly with any questions.

Sincerely,



Darya Blout

Founder & CEO
Deep Blue Composites
DBlout@deepbluecomposites.com
(857) 998 - 0236



841 Park East Drive, Woonsocket, RI 02985
Tel.: (401)-762-1500 Fax: (401)-762-1580

March 3, 2026

The Honorable Members of the Rhode Island General Assembly
c/o Rhode Island Office of Management and Budget
Providence, Rhode Island

RE: Support for \$2 Million in State Capital Funding for Advanced Composites Equipment at IYRS

Dear Members of the General Assembly,

On behalf of **FMI Textiles**, I am writing to express our strong support for the inclusion of \$2 million in the Rhode Island state budget to modernize and expand the advanced composites training equipment at the IYRS School of Technology & Trades.

FMI Textiles has strong roots in the state of Rhode Island. We were formed in 1995 as **Textile Engineering and Manufacturing, Inc. (TEAM, Inc.)** We operated for many years in **Slatersville, RI**. During this time we spun off a Biomedical Structures business, now part of Confluent Medical Technologies, located in **Warwick, RI**. In 2008 we relocated to our current facilities in the Highland Corporate Park in **Woonsocket, RI**. In 2023 we became part of Fiber Materials, Inc., (**FMI**), based in **Biddeford, ME**.

FMI Textiles' Woonsocket operations specialize in *textile engineering and manufacturing* of 2D woven fabrics and 3D woven preforms with primary application in the aerospace and defense industries. We rely on a highly skilled workforce capable of understanding advanced material technologies. Our materials support some of the most demanding applications in the world:

- Structural components and airfoils for aircraft engines
- The heat shield for **NASA's Mars Sample Return program**
- Lightweight armor for U.S. military ground vehicles

For more than 50 years, our parent company, **FMI**, has been a leading provider of high-temperature composite materials for the **Department of Defense, NASA**, and other mission-critical programs. FMI's Carbon/Carbon (C/C) and Ceramic Matrix Composites (CMCs) materials are used in applications including:



841 Park East Drive, Woonsocket, RI 02985
Tel.: (401)-762-1500 Fax: (401)-762-1580

- Thermal protection systems and re-entry vehicle nose tips
- Rocket motor throats and nozzles
- Structural systems for the **Orion Multi-Purpose Crew Vehicle**

Our work portfolio requires employees with a rare combination of technical skill, hands-on experience, and precision manufacturing capability—particularly in 3D weaving loom operation, composite fabrication, curing, testing, and process control. The workforce shortage in these areas is one of the most persistent challenges we face.

IYRS plays a uniquely important role in addressing this need. It is the **only** technical training program in the region delivering applied, industry-aligned composites instruction at a level that directly translates to readiness for employers like FMI Textiles. Graduates from IYRS arrive with the foundational knowledge, manual skill, and materials understanding that support immediate contribution to production and quality workflows.

However, the school's ability to meet the needs of advanced manufacturers depends on access to state-of-the-art equipment that mirrors current industry standards. The proposed \$2 million capital investment would allow IYRS to modernize its composites facility with the training infrastructure required to support the next generation of Rhode Island's advanced manufacturing workforce.

Given the critical nature of our work and the high demand for skilled technicians, we strongly urge the General Assembly to support this important investment in IYRS.

Thank you for your leadership and for your continued commitment to strengthening Rhode Island's advanced manufacturing workforce.

Respectfully,

A handwritten signature in blue ink, appearing to read "A Tomich", is written over a light blue horizontal line.

Aaron Tomich

Site Manager, FMI Textiles

atomich@fibermaterialsinc.com (401-762-1500 X225)

FLUX MARINE

500 Wood St. Bldg. 215 Bristol, RI 02809

March 9, 2026

The Honorable Members of the Rhode Island General Assembly
c/o Rhode Island Office of Management and Budget
Providence, Rhode Island

RE: Support for State Investment in Advanced Composites Training at IYRS

Dear Members of the House Finance Committee,

On behalf of Flux Marine, I am writing to express our support for the proposed \$2 million state investment to strengthen the advanced composites workforce training capabilities at the IYRS School of Technology & Trades.

Flux Marine is developing next-generation electric outboard motors and integrated marine propulsion systems, and our work depends on advanced composites for lightweight structures, durability, and high-performance design. As we continue to grow in Rhode Island, we rely on a workforce prepared in composites fabrication, quality assurance, vacuum processes, and materials handling—all core skills taught at IYRS.

IYRS is a key contributor to the state’s marine technology and blue-economy ecosystem. Its graduates arrive with hands-on training that aligns directly with the needs of innovative marine manufacturers like Flux Marine. Modernized equipment will allow the school to continue training students using the same types of technologies and processes employed in today’s marine propulsion and advanced fabrication environments.

We view this investment as critical to sustaining Rhode Island’s leadership in marine innovation and ensuring that companies like ours have access to the skilled technicians required to continue creating high-performance, zero-emission marine solutions.

Flux Marine strongly encourages your support for this important capital funding request.

Respectfully,



Benjamin Sorkin
Chief Executive Officer
Flux Marine



March 9, 2026

The Honorable Members of the Rhode Island General Assembly
c/o Rhode Island Office of Management and Budget
Providence, Rhode Island

RE: Support for State Investment in Advanced Composites Training at IYRS

Dear Members of the General Assembly,

On behalf of Hinckley Yachts, I am pleased to offer our support for the proposed \$2 million investment to modernize the advanced composites training facilities at the IYRS School of Technology & Trades

Hinckley has set the standard for innovation and craftsmanship in American yacht building for decades. Our vessels rely on sophisticated composite structures, precision fabrication, and advanced materials engineering to deliver the performance, durability, and quality synonymous with the Hinckley name. Whether in our yacht construction programs or through our service and refit operations—including those here in Rhode Island—our success depends on highly skilled technicians trained in modern composites processes.

IYRS is an essential workforce partner for our industry. Its graduates enter the marine trades with hands-on experience, strong foundational skills, and a clear understanding of the composite materials and processes prevalent in today's yacht and boatbuilding environments. As composite technologies continue to evolve, training must keep pace, and updated equipment is critical to prepare students for real-world work in leading marine facilities.

The proposed state investment will strengthen Rhode Island's marine economy, expand the pipeline of job-ready technicians, and support employers across the state who rely on advanced composites as a core part of their operations.

Hinckley Yachts respectfully encourages the General Assembly to include this funding in the upcoming state budget.

Sincerely,

Benjamin H. Plum
Chief Operating Officer
Hinckley Yachts



Jaia Robotics, Inc.
22 Burnside St, Ste 2
Bristol, RI 02809

March 9, 2026

The Honorable Members of the Rhode Island General Assembly
c/o Rhode Island Office of Management and Budget
Providence, Rhode Island

RE: Supporting Rhode Island's Investment in Advanced Composites Training for Ocean Robotics

Dear Members of the General Assembly,

At Jaia Robotics, we design and manufacture autonomous, swarm capable surface/underwater vessels that support ocean science, national security, and environmental monitoring. Our R&D and manufacturing is done in Bristol, RI. Our systems depend on lightweight, durable composite structures and precise fabrication methods that can withstand the demands of real world marine environments.

As we continue to expand in Rhode Island's rapidly growing ocean tech sector, we rely on a workforce with strong foundational skills in composites fabrication, materials handling, curing, and quality practices—skills that directly influence the performance and reliability of our vehicles. IYRS is a key contributor to this talent pipeline, preparing students with hands on, industry aligned composites training. We attended the recent IYRS Career Day and met with strong candidates for hire. We are currently in the process of hiring an intern who is training at IYRS now.

The proposed \$2 million investment to modernize IYRS's composites equipment would significantly strengthen Rhode Island's ability to train the technicians and builders needed to support next generation ocean robotics and autonomous systems companies like ours.

For these reasons, JAIA supports this capital request and encourages its inclusion in the upcoming state budget.

Sincerely,

Deedee Chatham

Deedee Chatham
Operations & Marketing Director
Jaia Robotics, Inc.

www.jaia.tech



March 11, 2026

The Honorable Members of the Rhode Island General Assembly
c/o Rhode Island Office of Management and Budget
Providence, Rhode Island

RE: Support for High-Return Workforce and Economic Development Investment at IYRS

Dear Members of the General Assembly,

Polaris MEP is a nonprofit that helps small and mid-sized manufacturers improve competitiveness through consulting, technology adoption, and workforce development. As such, we understand the total manufacturing installation base in the state and region. Rhode Island's manufacturing sector includes roughly 1,450 manufacturers employing nearly 10% of the state's private workforce, making it a major economic driver. Our services reported \$109.9 million in increased or retained sales and 585 jobs created or retained among participating companies, while working with over 260 manufacturers across 39 Rhode Island communities. These outcomes and connections support our mission while ensuring that public workforce investments translate into measurable economic returns for the state.

Advanced composites manufacturing underpins many of Rhode Island's priority industries, including defense, marine, aerospace, and advanced industrial manufacturing. Employers across these sectors consistently identify the availability of job-ready technical talent as a limiting factor to expansion. Addressing this workforce gap is essential to maximizing the impact of both state and federal investments already flowing into manufacturing, supply-chain resilience, and industrial modernization.

The IYRS School of Technology & Trades is a critical workforce asset within Rhode Island's economic development infrastructure. Its hands-on, industry-aligned training produces technicians with practical skills in composites fabrication, materials handling, quality practices, and production processes—capabilities that directly support employer productivity, reduce onboarding costs, and enable companies to scale more quickly.

The proposed \$2 million state investment to modernize advanced composites training equipment at IYRS represents a high-leverage use of public funds. This investment strengthens the manufacturing talent pipeline, supports job creation and retention, and improves Rhode Island's ability to attract and retain advanced manufacturing firms. Importantly and complementary to other critical training programs across the state, it also enhances the state's capacity to fully capitalize on federal funding and private-sector investment by ensuring that skilled labor is available to execute on those opportunities.

Polaris MEP strongly supports this capital request and encourages its inclusion in the upcoming state budget. Investing in advanced composites training at IYRS is a strategic economic development decision that delivers durable returns for Rhode Island's manufacturing economy and workforce.

Sincerely,

A handwritten signature in black ink, appearing to read "Christian Cowan".

Christian Cowan
Executive Director
Polaris MEP



SAFE HARBOR
MARINAS

March 10, 2026

The Honorable Members of the Rhode Island General Assembly c/o Rhode Island Office of Management and Budget Providence, Rhode Island

RE: Support for Workforce Development Investment in IYRS Composites Training

Dear Members of the House Finance Committee,

Representing Safe Harbor Marinas, I am pleased to convey our support for the proposed \$2 million state investment that will strengthen advanced composites training at the IYRS School of Technology & Trades.

Safe Harbor operates a marina network, including several locations across Rhode Island that play a critical role in the state's marine economy. Our facilities serve boat owners, commercial operators, and world-class yacht programs, all of which rely on technicians skilled in composites repair, structural reinforcement, laminating, and related marine fabrication processes. The demand for these skills continues to grow each season and Safe Harbor has hired more than 75 graduates from IYRS programs.

IYRS is an important training partner in this space. The school produces graduates who are prepared for real-world marine service environments and understand the composites techniques essential to quality vessel maintenance and repair. As boats and marine systems increasingly incorporate advanced materials, the need for technicians trained on modern equipment becomes even more essential.

The proposed investment will ensure that IYRS can continue to meet industry standards, expand training capacity, and support employers across Rhode Island's Blue Economy—including marinas, service yards, boatbuilders, and marine technology firms.

Safe Harbor Marinas encourages the General Assembly to include this funding in the upcoming state budget in support of Rhode Island's marine workforce and economic future.

Sincerely,

Holly Duffy, VP Teammate Development
Safe Harbor Marinas

March 11, 2026

Re: *Support for Capital Funding for Composites Equipment at IYRS — Advanced Composites Automation & Technology (ACAT) Center — Letter of Support*

Dear Members of the General Assembly,

Deep Blue Composites is a composites engineering and manufacturing company based in Bristol, Rhode Island, serving defense, dual-use, and autonomous systems hardware companies. We design and fabricate high-performance composite structures for undersea vehicles, aerospace platforms, and other mission-critical applications where material failure is not an option. Our work sits at the intersection of advanced materials science and precision manufacturing—exactly the disciplines the ACAT program is designed to cultivate.

Deep Blue Composites has a direct and active stake in the success of the ACAT center at IYRS. As a Rhode Island manufacturer competing for defense and autonomy contracts that demand NAVSEA- and FAA-certifiable composite structures, our greatest operational constraint is workforce. We require technicians who understand resin infusion (VARTM), autoclave and hot bonding cycles, and non-destructive testing—not after months of on-the-job remediation, but on day one. The ACAT curriculum, particularly Modules 102 (Process Engineering & Fabrication), 103 (Curing Methods & Thermodynamics), and 105 (Qualification, Testing & Quality Assurance), maps directly onto the skill sets we need in our production environment. We intend to recruit ACAT graduates and to leverage the program’s incumbent upskilling tracks to advance our existing team.

Deep Blue Composites commits to the following in support of this program:

- **Preferential hiring of ACAT graduates** for fabrication, process, and QC/NDT roles at DBC, with a target of two to four ACAT-credentialed hires in the first year of the program’s operation.
- **Participation as an industry advisory partner**, contributing real-world process requirements, quality standards, and material specifications to ensure curriculum alignment with defense and autonomous systems manufacturing.
- **Enrollment of incumbent DBC technicians** in ACAT’s Advanced Specialization tracks (Modules 104–106) as standalone upskilling credentials, directly funding the program through tuition revenue.



500 Wood St. Unit 323
Bristol, RI 02809
www.vatn.com

March 9, 2026

The Honorable Members of the Rhode Island General Assembly
c/o Rhode Island Office of Management and Budget
Providence, Rhode Island

**RE: Supporting Rhode Island's Investment in Advanced Composites Training for
Aerospace Innovation**

Dear Members of the General Assembly,
At VATN Systems, we develop advanced composite structures, test systems, and engineering solutions for commercial and defense subsurface marine applications defense, as well as next-generation manufacturing applications

Rhode Island's growing defense and advanced-manufacturing ecosystem requires a workforce trained on modern equipment and contemporary processes. IYRS helps meet that need by preparing students with hands-on skills in fabrication, curing, structural assembly, and material evaluation.

The proposed \$2 million investment to modernize composites training equipment at IYRS is essential to ensuring that Rhode Island continues to develop a workforce capable of supporting complex defense and industrial base manufacturing. Updated technology will allow students to train using tools and systems similar to those used across our industry, improving readiness and strengthening the state's competitive position in high-value sectors.

VATN Systems supports this and encourages its inclusion in the upcoming state budget.

Sincerely,

A handwritten signature in black ink, appearing to be "N. Mills", written in a cursive style.

Nelson Mills
CEO
VATN Systems



March 15, 2026

200 CALLAHAN ROAD
NORTH KINGSTOWN, RI 02853
WWW.REGENTCRAFT.COM

The Honorable Members of the Rhode Island General Assembly
c/o Rhode Island Office of Management and Budget
Providence, Rhode Island

RE: Support for State Investment in Advanced Composites Training at IYRS

Dear Members of the General Assembly,

As the company pioneering the Seaglider – a new class of all-electric, composite-structure, wing-in-ground-effect vehicle – REGENT is pleased to support the proposed \$2 million investment to expand and modernize advanced composites training at the IYRS School of Technology & Trades.

Our work developing Seagliders depends on sophisticated composite structures, aerospace-grade materials, and precise fabrication techniques. As we continue scaling engineering, prototyping, and manufacturing operations here in Rhode Island, the availability of a workforce trained in modern composites processes is essential to our mission. With our 255,000 square foot factory months away from opening, our need for trained, experienced, local composites technicians is urgent and critical.

IYRS plays a valuable role in preparing talent with hands-on experience in fabrication, curing, structural assembly, and materials testing – all competencies that support REGENT’s advanced manufacturing needs. Modernized equipment will enable the school to train students on the same types of technologies that companies like ours rely on as we bring next-generation maritime-aviation systems to market.

Rhode Island is working to position itself as a leading hub for ocean innovation and advanced maritime technology. Investing in the composites training infrastructure at IYRS directly strengthens the local talent pipeline required to support that vision.

REGENT encourages your support for this important capital request.

Sincerely,

A handwritten signature in black ink, appearing to read "Billy Thalheimer".

Billy Thalheimer
Co-founder and CEO
Billy@regentcraft.com



The Honorable Members of the Rhode Island General Assembly
c/o Rhode Island Office of Management and Budget
Providence, Rhode Island

RE: Support for Capital Funding for Composites Equipment at IYRS

Securing Rhode Island's Lead in the Blue Economy

The Objective: To establish a world-class Advanced Composites Automation & Technology (ACAT) center in Rhode Island. This facility transforms students into high-precision "**Engineering Technicians**"—professionals who possess the hands of a craftsman and the mind of a material scientist, capable of supporting the most advanced undersea, aerospace, and defense assets.

Foundational AI & Data Literacy (Modules 101–103)

We lay the groundwork early so students understand the "Why" behind the machine's logic:

The Strategic Advantage: Rhode Island is the epicenter of the "Blue Economy." With a surge of companies specializing in **Undersea Autonomous Vehicles (UUVs)**, **Electric Sea Gliders**, and **Submarine Defense**, the state requires a workforce that understands the "**Science of Survival**" in extreme environments.

The ACAT Modules: Strategic Economic Alignment

Module 101: Materials Science & Safety Physics

- **Strategic Alignment:** Reduces industrial liability by training professionals who understand the molecular "Why." A technician who understands chemical **Sensitization** is an asset; one who doesn't is a liability to the state's healthcare system.
- **(Computer Vision):** Students use AI-driven vision systems to provide real-time feedback on manual ply placement and fiber orientation, accelerating the mastery of manual precision.
- **Workforce Outcome:** Produces graduates who understand materials at a chemical level, reducing scrap rates for local manufacturers.

Module 102: Process Engineering & Fabrication Strategy

- **Strategic Alignment:** Builds the "Muscle Memory" for high-stakes manufacturing in the **Defense and Marine** sectors.



- **(Predictive Analytics):** Students use AI models to predict material "pot-life" and exotherm windows based on real-time ambient shop data (temp/humidity).
- **Workforce Outcome:** Produces technicians ready for cleanroom environments who can troubleshoot **Resin Infusion (VARTM)** in real-time—critical for RI's autonomous hull production.

Module 103: Curing Methods, Thermodynamics & Equipment

- **Strategic Alignment:** Focuses on "Thermal Control" and "Energy Efficiency"—the most high-risk phase of aerospace production.
- **(Digital Twin Foundation):** We introduce AI-assisted metrology to automatically flag geometric anomalies by comparing physical parts to their "Digital Twin" CAD models.
- **Workforce Outcome:** Graduates are qualified to manage complex **Autoclave** and **Hot Bonding** cycles, preventing catastrophic manufacturing losses.

Module 104: Automation & High-Volume Manufacturing

- **Strategic Alignment:** Directly addresses the "Skills Gap" for robotic manufacturing, making RI a hub for **High-Rate Production**.
- **AI-Driven Process Control:** Students leverage AI to manage "Closed-Loop" manufacturing. Using real-time sensor data from the Radius S-RTM workcells, AI algorithms automatically adjust injection pressures and temperatures to ensure "First-Time-Right" manufacturing, drastically reducing scrap rates in high-volume production.
- **Workforce Outcome:** Trains specialists to manage resin rheology at **1,500 psi**, scaling production from prototypes to high-volume vehicle lines.

Module 105: Qualification, Testing & Quality Assurance

- **Strategic Alignment:** The "Safety Shield" for RI industry. Ensures every part is federally compliant and "Mission-Ready."
- **Predictive Quality Assurance:** We move beyond manual inspection. Students train on AI-assisted Non-Destructive Inspection (NDI) tools that use machine learning to identify sub-surface defects (voids, delamination) with greater speed and aerospace-grade accuracy.
- **Workforce Outcome:** Produces inspectors who master **Verification Cross Reference Matrices (VCRM)** and advanced forensic metrology.

Module 106: Design, Analysis & Substantiation

- **Strategic Alignment:** Captures the high-value "**Digital Twin**" economy, moving RI from "Builders" to "Designers."
- **Generative Design & Simulation:** Focused on the **Digital Twin**, students use AI-driven generative design to optimize part geometry. They run predictive AI simulations to verify



performance before a part is ever built, shortening the R&D cycle for defense and aerospace partners.

- **Workforce Outcome:** Creates engineers who use **Digital Image Correlation (DIC)** to prove their virtual designs match physical reality, a requirement for FAA/DOD certification.
- **Predictive Maintenance & Industrial IoT (6-Zone Facility Model):** Across the entire facility, AI-enabled sensors monitor the "health" of critical infrastructure (Autoclaves, CNCs, and Dust Extraction). Students learn to use this data to predict equipment failure before it happens, ensuring the high-uptime required of a modern Tier-1 production environment.



The Career Progression Pipeline: Four Stages of Workforce Readiness

To fill the diverse needs of Rhode Island's industry, the ACAT program is delivered in four distinct stages of mastery. The ACAT curriculum is structured to support two distinct but equally vital pipelines for the state's economy: **New Talent Development** and **Incumbent Workforce Upskilling**.

Stage 1: The Certified Technician (Core Fundamentals)

Modules included: 101, 102, 103

- **Focus:** Manual Craftsmanship, Repair, and Basic Processing.
- **The RI Role:** Fills critical gaps in the **Marine Trades, Offshore Wind, and Aerospace MRO** sectors. These graduates are the backbone of the production floor, ensuring parts are built to "Flight-Ready" standards.
- **Duration:** ~6 Months (~600 contact hours)
- **Workforce Impact:** Provides a steady stream of entry-level technicians for Rhode Island's marine, wind, and industrial sectors. Graduates enter the market "shop-ready" with a deep understanding of the "Science of Survival" in extreme environments.
- **Outcome:** Entry-level fabrication roles (\$45k–\$70k salary).

Stage 2: The Automation & Robotic Specialist

Modules included: 104 (plus Stage 1 prerequisites)

- **Focus:** Industrial Scale-Up, Robotics, and Programming.
- **The RI Role:** Supports "Industry 4.0" initiatives. These graduates operate the **Automated Fiber Placement (AFP)** robots used to build carbon fiber fuselages and pressure-rated undersea hulls.
- **Outcome:** Advanced manufacturing and robotic cell operators (\$60k–\$85k salary).

Stage 3: The QC/NDT Specialist (The Gatekeepers)

Modules included: 105 (plus Stage 1 & 2 prerequisites)

- **Focus:** Qualification, Testing, and Quality Assurance.
- **The RI Role:** Essential for the **Defense Industrial Base**. These specialists use **Phased Array Ultrasound** to certify that a submarine component or aircraft wing is free of invisible internal defects before it is deployed.
- **Outcome:** Quality Control and Non-Destructive Testing (NDT) Inspectors (\$60k–\$95k salary).



Stage 4: The "Unicorn" (The Design & Validation Tech)

Modules included: 106 (The "Full Stack" Completion)

- **Focus:** The "Full Stack" Professional—Bridging the "Art-to-Part" gap.
- **The RI Role:** These are the **Liaison Engineers** who anchor high-tech companies in Rhode Island. They can design a part in CAD, simulate it with FEA, and fix "unbuildable" designs on the shop floor.
- **Outcome:** Process Engineers and R&D Lab Managers (\$90k–\$120k+ salary).

Stages 2–4: Advanced Specialization (The Industry Accelerator)

While these modules (104–106) build upon foundational knowledge, they are specifically engineered for the incumbent workforce and **on-the-job training (OJT)** participants. While Stage 1 serves as a prerequisite to ensure safety and material mastery, the **Advanced Specialization** (104–106) modules are designed to be "unlocked" by industry participants through a **Prior Learning Assessment (PLA)** or verified shop-floor experience.

Modules: 104 Automation | 105 Qualification & Testing | 106 Design & Validation

- **Duration:** 2–3 Months per track (~300+ hours)
- **Flexibility:** Delivered as standalone tracks or **1-week intensive micro-credentials**.
- **Workforce Impact:** Allows Rhode Island companies to send existing employees for targeted upskilling in high-value areas like Robotic Tape Laying (AFP), Ultrasonic NDT, and Digital Twin Simulation without requiring a full 6-month absence from the shop floor.

The "Unicorn" Factor: Anchoring RI's High-Tech Future

The "Unicorn" (Stage 4) is the ultimate graduate of the ACAT series. These individuals are the "Secret Weapon" for Rhode Island companies competing for multi-million dollar federal grants:

1. **The Liaison Bridge:** They fix "unbuildable" designs before they reach production, saving companies hundreds of thousands in wasted material.
2. **Federal Substantiation:** They provide the "Digital Thread" documentation (**DIC-to-FEA calibration**) required by **NAVSEA** and the **FAA** to certify airworthiness or "Sub-Safe" status.
3. **Strategic Retention:** These professionals are so rare that their presence in Rhode Island acts as a "Retention Anchor"—companies stay where the "Unicorns" are.



*Conclusion: "Rhode Island's leadership in the Blue Economy depends on a workforce that understands the molecular and robotic complexity of modern materials. By funding the Advanced Composites Automation & Technology (ACAT) center at IYRS, the state is investing in a **Process Engineering Pipeline** that provides the technical expertise and certification infrastructure necessary to anchor the world's most advanced autonomous and defense companies right here in Rhode Island.*

Sincerely,

Jonathan Hammel

Director of Composites and Advanced Technology

AI Summary

Foundational AI & Data Literacy (Modules 101–103)

We lay the groundwork early so students understand the "Why" behind the machine's logic:

- **Module 101 (Computer Vision):** Students use AI-driven vision systems to provide real-time feedback on manual ply placement and fiber orientation, accelerating the mastery of manual precision.
- **Module 102 (Predictive Analytics):** Students use AI models to predict material "pot-life" and exotherm windows based on real-time ambient shop data (temp/humidity).
- **Module 103 (Digital Twin Foundation):** We introduce AI-assisted metrology to automatically flag geometric anomalies by comparing physical parts to their "Digital Twin" CAD models.

1. AI-Driven Process Control (Module 104: Automation)

Students leverage AI to manage "Closed-Loop" manufacturing. Using real-time sensor data from the Radius S-RTM workcells, AI algorithms automatically adjust injection pressures and temperatures to ensure "First-Time-Right" manufacturing, drastically reducing scrap rates in high-volume production.

2. Predictive Quality Assurance (Module 105: QA & Qualification)

We move beyond manual inspection. Students train on AI-assisted Non-Destructive Inspection (NDI) tools that use machine learning to identify sub-surface defects (voids, delaminations) with greater speed and aerospace-grade accuracy.

3. Generative Design & Simulation (Module 106: Design & Substantiation)

Focused on the **Digital Twin**, students use AI-driven generative design to optimize part geometry. They run predictive AI simulations to verify performance before a part is ever built, shortening the R&D cycle for defense and aerospace partners.

4. Predictive Maintenance & Industrial IoT (6-Zone Facility Model)

Across the entire facility, AI-enabled sensors monitor the "health" of critical infrastructure (Autoclaves, CNCs, and Dust Extraction). Students learn to use this data to predict equipment failure before it happens, ensuring the high-uptime required of a modern Tier-1 production environment.