



## **Status Update**

October 1, 2025

**Where innovation becomes impact**



**ccam**

Commonwealth Center  
for Advanced Manufacturing

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## CCAM Status Update

This update is being submitted as required by HB6001, Chapter 2, Item 115 K.5:

K.5. “CCAM shall submit a report on October 1 of each year to the Secretary of Finance, Chairs of the House Appropriations and Senate Finance and Appropriations Committees, and VIPA containing a status update of all new incentive programs, including but not limited to the following: (i) MOUs it has entered into with each university partner; (ii) funds disbursed to both university and private sector partners of CCAM, as well as any other recipients; (iii) any other agreements CCAM has entered into with representatives of the public and private sectors that may impact current and future incentive fund disbursements; (iv) all efforts and costs associated with obtaining federal research grants; and (v) any additional information requested by the Secretary of Finance, or the Chairs of the House Appropriations and Senate Finance and Appropriations Committees.”

Elements requested in K.5. are outlined on page [22](#). In addition to those items requested, a brief overview is provided below to communicate CCAM’s progress over the past year.

## Executive Summary

### Financial Update

- CCAM continued its upward trajectory with record total, and federal, revenue in FY25. Commonwealth support has helped provide a firm foundation on which CCAM can grow. The primary focus for FY26 is further diversification within the industry and federal portfolios to mitigate risk of reliance on any one program.
- CCAM is in the process of completing its annual audit for FY25. Final audit results are expected later this calendar year with an expected designation of an unqualified opinion. Audited financial statements for FY25 can be provided once received by CCAM.
- CCAM's unrestricted cash position as of September 19, 2025, is [REDACTED].
- CCAM had a 29% increase in revenue YOY, for a total of \$13.1M.
- CCAM is estimated to have a Commonwealth economic impact of \$53M annually, supporting over 225 high-paying jobs<sup>1</sup>.
- The Department of General Service's (DGS) acquisition of the CCAM building was finalized in January 2025, [REDACTED], as was envisioned when the associated legislation went into effect on July 1, 2021.
- All trade debt is current as of September 30, 2025.

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<sup>1</sup> Linear calculation based on Chmura Economics & Analysis, 2022 report. Chmura’s analysis indicates that each dollar of state funding generates \$17.3 in economic impact in the Commonwealth of Virginia.

## Business Development

- CCAM's new membership agreement was ratified in February 2025, culminating 18 months of strategic planning, stakeholder engagement and final approval. This is the most significant structural change to CCAM's business model since its inception. It addresses critical barriers that previously hindered member recruitment and retention.
- CCAM underwent a comprehensive brand refresh in 2025, highlighting its unique combination of industry-scale manufacturing equipment, in-situ analysis tools, digitally-enabled infrastructure, and diverse technical expertise. This has provided a clear framework for illustrating CCAM's differentiated role in bridging the critical gap between laboratory innovation and production-ready manufacturing solutions.
- Three new Technology partners joined as industry members in FY25: WAAM3D, Hexagon and Quality Vision International (QVI).

## Federal Funding & Workforce Development

- Annual federal award revenue grew to \$3.1M in FY25, which is >600% increase in three years, validating the effectiveness of the Commonwealth's investment in CCAM federal program development.
- An additional \$1.7M was awarded to CCAM in FY25 by its primary contract within the Marine Industrial Base (MIB) sector.
- CCAM continues to lead one of 31 nationally designated Economic Development Agency (EDA) Tech Hubs, Virginia's Advanced Pharmaceutical Manufacturing (APM) Tech Hub – on behalf of the Alliance for Building Better Medicine (ABBM). The team is currently developing their response to a federal notice of funding opportunity (NOFO) for FY26.
- Named a VTOP Top Intern Employer for the fourth consecutive year
- GO TEC® Expansion: CCAM was awarded a GO Virginia grant totaling \$971K to implement Career Connections labs in five schools across Region 4.

## Operational Risks

- The federal funding landscape is facing greater pressure under the current administration's federal government reorganization. CCAM must continue to navigate potential funding risks that other organizations are experiencing due to proposed budget cuts, delays, new policies, termination or non-renewal, and capping of indirect cost rates on current and new grants.
- New DoD contract solicitation requirements are increasing pressure to achieve Cybersecurity Maturity Model Certification (CMMC) 2.0 Level 2 compliance. This is a rigorous process, but necessary for CCAM if it continues to pursue awards that require handling of controlled unclassified information (CUI). Compliance efforts are underway.
- CCAM must remain vigilant in its efforts to diversify its industry and federal portfolio to mitigate risk of reliance on any one contract or program. The new member model should

greatly help this diversification and the CCAM team has been extremely active in its pursuit of additional federal programs.

## CCAM

### Keeping up the Growth Momentum

CCAM had a record year in FY25, generating \$13.1M of revenue. This represents a 29% increase YOY and 70% over FY21 revenues of \$7.7M. CCAM is estimated to have a Commonwealth economic impact of \$53M annually<sup>2</sup>, supporting over 225 high-paying jobs.

Our ability to deliver increased, demonstrable value has enabled us to translate that performance to additional program wins with key customers. This, in turn, has increased our exposure to new opportunities, both internally and externally. We continue to execute and adapt our growth strategy and invest in resources and capabilities with an eye toward sustainability.

CCAM is on target with respect to our 5-year strategy. In FY23 we were able to solidly get on the map in terms of federal funding revenue. In FY24, we completed our strategy development for growing industry membership and began investing in, and executing on, that strategy in FY25. With the foundational strategy work for increasing industry revenue now recently completed, we are looking forward to driving that strategy toward membership growth in FY26, which will then translate to additional industry funding growth in FY27. Our progress in workforce and ecosystem development has also been noteworthy, as we have demonstrated collaboration and leadership in these areas – particularly in the pharma manufacturing and Marine Industrial Base (MIB) verticals. These efforts go hand-in-hand with CCAM's growth strategy, creating new opportunities while providing meaningful economic development for the Commonwealth.

Looking forward to FY26, we aim to enhance our regional economic impact while driving CCAM revenue growth with an eye toward diversification of funding sources. This is a key focus point, as sizeable funding through a small number of industry and federal programs are key risk factors to address as we drive our FY26 efforts on growth and diversification.

### Growing Industry Membership

CCAM's pursuit of increased industry membership is focused on retaining and elevating our current industry member engagement, as well as adding additional members to the fold. In FY25 much of the effort for new member recruitment was focused on addressing foundational hurdles, such as updating our model membership agreement to align with new strategy, and rebranding CCAM with an updated image and communications. While this foundational effort was underway to set up CCAM's FY26 member external recruitment drive, we executed our plan for improving our current member retention through increased engagement and communicating clear ROI metrics for industry

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<sup>2</sup> Linear calculation based on Chmura Economics & Analysis, 2022 report. Chmura's analysis indicates that each dollar of state funding generates \$17.3 in economic impact in the Commonwealth of Virginia.

members. Having already conducted a Voice of the Customer assessment in FY 23/4, for FY 25 we brought on a seasoned Customer Success Manager to execute initiatives that consistently deliver on the member-defined needs in deriving ROI from their CCAM engagements. Efforts in key identified areas, including Enhanced Collaboration, Services and Communications, Workforce Talent Development, Strategic Use of Incentive and Research Grants, and additional Capability Development – acquired via tech member recruitment and federal funding programs – have largely been lauded by our membership and have begun to drive additional engagement and investment.

With a new industry-friendly Member Agreement in place and our compelling new branding refresh with a modern look recently completed, we have now hired an additional experienced business development resource in FY26 that is solely dedicated to new member recruitment. These efforts for growing our industry engagement and revenue are described in more detail in the following sections.

## Strategic Branding of CCAM's Unique Capabilities

CCAM's core mission centers on delivering measurable impact to our partners. Our advanced manufacturing ecosystem provides the infrastructure and know-how required to serve as a collaboration enabler, where advanced manufacturing technology and talent development converge to mature and de-risk complex technology solutions. We refer to this concept as our Technology Maturation Accelerator (TMA) (**Figure 1**).

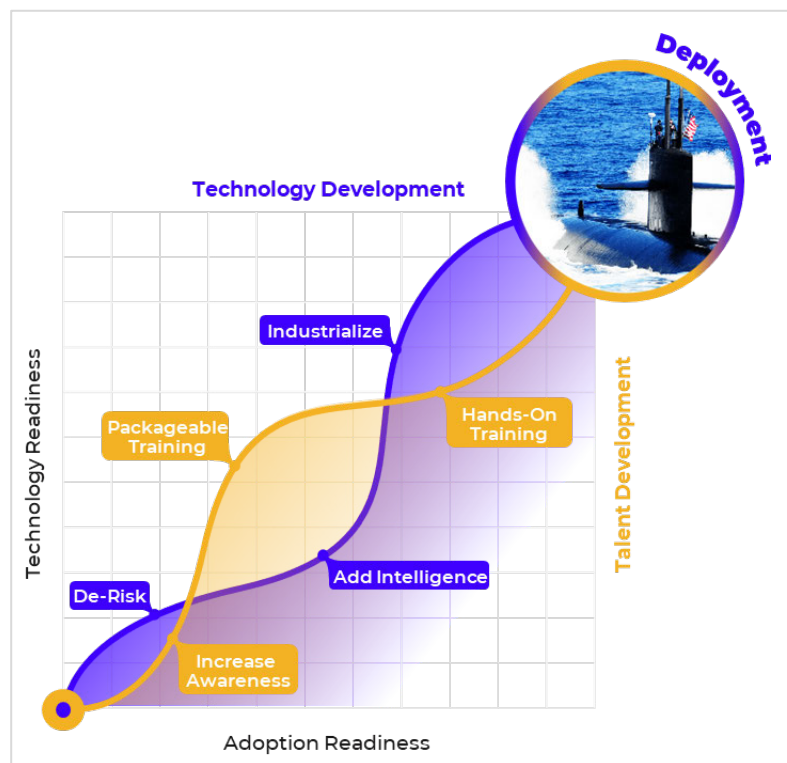


Figure 1: CCAM's Technology Maturation Accelerator (TMA)

CCAM's Technology Maturation Accelerator (TMA) provides a nexus between industrial challenges, technology providers, collaborative environments and regional interests. The result is the co-development of both the technology and talent needed by this region's industrial base.

This convergence approach embeds talent and workforce development alongside technological advancement, creating comprehensive solutions that address partner needs holistically, while strengthening Virginia's advanced manufacturing capabilities. Critically, this

approach lowers barriers to technology adoption for partners throughout Virginia in a manner that:

- 1) Reduces development costs by limiting initial investment in both capital equipment and engineering talent and leveraging shared investment using collaborative programs.
- 2) Enables next-generation technology solutions to be developed in parallel with ongoing operations.
- 3) Provides an understanding of the talent requirements for advanced manufacturing deployments and assuring the resources are available when needed.

Central to the TMA concept is CCAM's industrial scale manufacturing testbed that can be used to address identified industrial needs and requirements while also providing the backdrop for effective talent / workforce development. The factory "testbed" is based on CCAM's advanced manufacturing research related to Industry 4.0 (smart manufacturing) and Industry 5.0 (human-machine optimization) technologies. These core technologies showcase the impact that the integration of process intelligence, automation and the digital thread can provide to a wide range of manufacturers.

The output of this work will encourage product providers, from SMMs to large multi-nationals, to enter and/or enhance the Intelligent Factory community. This results in increased competitiveness of the local manufacturing base through reduced product lead times, the timely resolution of supply chain shortages, and enhanced efficiencies for both workers and employers across Virginia's broad Defense and Commercial industrial base.

One element to our mission is CCAM's role in the community: enabling a highly capable ecosystem of partners, focused on positively impacting manufacturing, with the means to rapidly mature, mission critical technology for insertion. The TMA ecosystem establishes a consortium of:

- **Industrial Partners** with common manufacturing challenges and goals,
- **Collaborators** that provide technology and knowhow required to solve the multi-disciplinary challenges that individual companies struggle to address independently,
- **Customers and Sponsors** with identified needs and the resources to address them, and
- **Stakeholders** that recognize the impact advanced manufacturing implementation can have on the region's success.

In preparing for FY26 new member recruitment efforts, CCAM completed a comprehensive brand refresh effort in 2025. The rebranding was focused on positioning the organization as a manufacturing Technology Maturation Accelerator for Virginia, communicating CCAM's mission and impact in a clear and concise manner.

The comprehensive brand refresh in 2025 highlights CCAM's unique combination of industry-scale manufacturing equipment, in-situ analysis tools, digitally-enabled infrastructure, and diverse technical expertise. This strategic repositioning launched in May with new logos and visual identity updates, followed by comprehensive website redesign, updated company literature, and enhanced



case studies that demonstrate CCAM's differentiated value in the advanced manufacturing landscape.

CCAM's new branding has resonated strongly with both current and prospective members, providing a clear framework for understanding CCAM's differentiated role in bridging the critical gap between laboratory innovation and production-ready manufacturing solutions. Future phases will include enhanced conference exhibition materials and a targeted webinar series designed to showcase CCAM's capabilities to specific industry verticals.



*Figure 2: CCAM Advanced Manufacturing Ecosystem*

## Model Structure for Continued CCAM Growth

### New Industry Membership Model Implementation

CCAM successfully ratified its new membership agreement in February 2025, culminating 18 months of strategic planning, stakeholder engagement and final approval. The new model has been fully operational since fiscal Q3 2025. This milestone represents the most significant structural change to CCAM's business model since its inception, enabling meaningful recruitment of new CCAM industry members.

The new membership model addresses critical barriers that previously hindered member recruitment and retention. Key improvements - driven by industry "Voice of the Customer" outputs – include:

- **Reduced Commitment Terms:** Research membership terms decreased from 5 years to 1 year, significantly reducing organizational risk and decision-making complexity for prospective members. Under the old model, a prospective new member had to commit up front to investing \$2M over 5 years, which was a non-starter requirement for all but a very few companies.
- **Elimination of Pre-paid Research Structure:** The oversized annual commitment for potential (and existing) member companies meant that the members would pre-pay for research. Industry feedback was clear that this model was outdated, and they preferred to pay for



projects as they are defined and executed. The removal of the “escrow model” now allows companies to align financial commitments with specific technical needs, improving cash flow management and organizational accountability.

- **Accessible Fee Structure:** Reduced yearly membership fees now also better accommodate small and mid-sized manufacturers to join alongside large international partners, dramatically expanding CCAM’s addressable market.
- **Enhanced Governance:** Strategic Class Industry Members now participate directly in Board of Directors decisions, ensuring industry member voices guide CCAM's operational priorities.

## Strategic Use of Incentive and Research Grants

Under the new membership model, CCAM strategically deploys Commonwealth funding in full compliance with legislative guidelines to strengthen Virginia's economic competitiveness while delivering enhanced value to our industry members. CCAM's evolved approach leverages industry investments to amplify the reach and effectiveness of public resources, creating broader collaborative opportunities that benefit both the Commonwealth and our member organizations. This strategic reframing attracts and multiplies private sector contributions through three mechanisms that expand value creation: fostering innovation ecosystems, strengthening industry partnerships, and advancing Virginia's position as a leader in emerging technologies. These methods provide increased leverage of Commonwealth investments while providing members with increased market access, collaborative opportunities, and enhanced capabilities that support their growth and success.

- **Collaborative Programs:** These initiatives provide match funding opportunities for companies engaging in pre-competitive research where two or more members collaborate on shared challenges. This approach amplifies member funding, creates foundational capabilities that benefit the broader ecosystem, and ensures solutions address cross-sector manufacturing needs while increasing the leverage of Commonwealth funding.
- **Technology Assessments:** This program enables companies to secure matched seed funding for rapid technology readiness evaluations conducted through partnerships between Research and Technology members. The assessments utilize CCAM's advanced digital test bed facilities to foster direct engagement between technology innovators and end-user companies, producing practical insights into deployment readiness and implementation viability. By systematically evaluating and de-risking emerging technologies while establishing clear implementation roadmaps, these assessments lay the groundwork for future investment decisions. This approach accelerates the adoption of cutting-edge

manufacturing technologies across the state and creates scalable models for broader regional expansion.

*“Working with CCAM’s team as well as their network of members provides Creaform with invaluable insight into the evolving challenges of advanced manufacturing. The team at CCAM is able to allocate manpower and resources to very effectively evaluate our solutions more thoroughly in new applications than we would normally be able to. These evaluations provide everyone involved with valuable feedback as well as help guide our future product improvements. Looking forward to working with CCAM again in the future!”*

Cullen Williams, Account Manager  
**Creaform**

*“CCAM’s Technology Assessment program provided Hexagon’s Design and Engineering team with a collaborative platform to work alongside the member community. These connections create a bridge between innovation and application, accelerating advancement of manufacturing process simulation in industry.”*

Jeff Robertson  
Director of Product Management  
Simufact, FTI, Digimat  
**Hexagon Manufacturing Intelligence**

- **Talent and Workforce Development:** This emerging focus area represents an exciting opportunity for CCAM to catalyze collaborative partnerships between universities, government agencies, and industry leaders. By providing strategic seed funding for innovative workforce development initiatives, these programs serve as proof-of-concept engines that demonstrate the potential of multi-stakeholder approaches to addressing Virginia's manufacturing talent needs. The gateway effect is compelling: initial investments validate partnership models and generate measurable outcomes that unlock significantly larger follow-on funding from both public and private sources, creating opportunities that would not be viable without this foundational validation. CCAM is excited to continue building these transformative partnerships that turn pilot programs into sustainable, scalable solutions for Virginia's manufacturing workforce challenges.

## **Member Response and Engagement**

Member response has been overwhelmingly positive, with existing members enthusiastic about enhanced benefits and expanded opportunities. Engagement has increased significantly across all member categories since implementation, with project discussions and collaborative initiatives rising substantially. These efforts are expected to drive increased industry investment in Virginia, strengthening the Commonwealth's economic position and ensuring greater success for all stakeholders.

*“Rolls-Royce’s partnership with CCAM and our University Technical Center relationships with leading institutions, like the University of Virginia and Virginia Tech, is accelerating the development of advanced coatings, automation, and robotics. Together, we’re driving innovation that strengthens the national manufacturing ecosystem, especially within key industries such as Aerospace and Maritime. CCAM’s expertise in maturing and validating new manufacturing technologies makes them a long-term trusted partner.”*

Rob Proctor, Chief of Materials  
**Rolls-Royce**

## Membership Recruitment and Expansion

Following the removal of key structural barriers – including oversized industry annual commitments and extended commitment terms – CCAM has significantly accelerated its recruitment efforts targeting strategic growth areas within Virginia. Primary focus areas include medium and large manufacturers within the Commonwealth, as well as key primes and suppliers within the broader maritime industrial base, a sector facing critical national security challenges related to submarine and surface ship production bottlenecks.

This maritime focus represents a strategically vital area for CCAM given Virginia's central role as the backbone of America's naval shipbuilding capacity. The Commonwealth hosts the world's largest naval base at Norfolk: major shipyards including Newport News Shipbuilding and General Dynamics NASSCO facilities – as well as Navy-owned shipyards – and serves as headquarters for critical naval commands. This concentration positions Virginia at the epicenter of maritime defense manufacturing, making regional manufacturers essential partners in addressing national security imperatives.

The alignment between CCAM's advanced manufacturing capabilities and the Navy's technological priorities creates compelling synergies across multiple domains. Key technology areas where CCAM members can directly enable naval modernization goals include additive manufacturing for rapid prototyping and on-demand parts production, advanced materials processing for next-generation hull and propulsion systems, precision machining for critical submarine components, and automated manufacturing solutions to accelerate production timelines. These capabilities are particularly crucial as the Navy pursues ambitious fleet expansion goals while confronting supply chain vulnerabilities exposed by recent global disruptions.

To support expanded recruitment efforts, CCAM has added dedicated external engagement resources focused specifically on membership development. This strategic investment provides a consistent market presence and ensures prospective members receive comprehensive information about CCAM's ecosystem benefits and collaborative opportunities.

In executing the overall strategy, CCAM has also re-energized technology partnerships through strategic focus on acquiring Technology Members that match capability needs and partnership goals of our broader advanced manufacturing community. This recruitment approach ensures that new Technology Member capabilities enhance the overall collaborative ecosystem while providing specific solutions to manufacturing challenges identified by industry Research Members throughout Virginia and beyond.

Three new Technology partners were recruited and onboarded during 2025:

- **WAAM3D:** Addition of the RoboWAAM XP system, representing the first system of its kind deployed in the United States, significantly expanding CCAM's wire arc additive manufacturing capabilities
- **Hexagon:** Access to advanced Simufact and VGStudio software tools, enhancing our simulation and analysis capabilities across multiple manufacturing processes
- **QVI:** Implementation of the Kotem suite supporting model-based definition (MBD) approaches, strengthening our digital manufacturing infrastructure

These strategic capability additions position CCAM as a uniquely comprehensive manufacturing research partner, creating compelling value propositions that attract increased industry investment while establishing the advanced technology portfolio necessary to compete for high-value federal research programs requiring cutting-edge advanced manufacturing capabilities.

## Federal Funding Development

### Maritime Industrial Base (MIB) Focus

CCAM's strategic focus on the maritime industrial base directly strengthens Virginia's position as a national leader in defense manufacturing while addressing critical national security priorities through our core competencies in advanced manufacturing. This sector presents exceptional growth opportunities for the Commonwealth as defense contractors throughout Virginia seek to overcome production bottlenecks and supply chain resilience challenges affecting both submarine and surface vessel programs. By concentrating on maritime applications, CCAM reinforces Virginia's strategic importance to U.S. naval operations while creating high-value manufacturing jobs and expertise that remain within the state.

The current MIB focus is driven by the US Navy's mission-critical build plan for new COLUMBIA and VIRGINIA class submarines, which enters high-rate production in 2026 and will result in significantly increasing demand for manufacturing capacity and skilled labor in Virginia (as the nation's 2<sup>nd</sup> largest sector of the MIB). This plan anticipates a >5X manufacturing capacity increase for the Marine Industrial Base (MIB) resulting in a projected shortfall of >250,000 skilled trades workers and an increased need for additional engineering support. Amplifying this issue is the high-mix / low-volume nature of shipbuilding, which results in extremely hard-to-automate production environments and

the under-utilization of state-of-the-art manufacturing technologies. These aspects are driving the strong need to engage and organize MIB manufacturing ecosystems in key regions across the country to help significantly improve output.

### **AMPro/Subs**

CCAM is a founding member and active participant in a collaborative, federal project (AMPro/Subs) that is operationalizing the use of additive manufacturing (and related advanced manufacturing techniques, such as Industry 4.0) for use in the MIB. This growing project, led by Austal Advanced Technologies in Charlottesville, VA, now provides [REDACTED] annually into the state economy to support advanced manufacturing development, deployment and use. CCAM's role is to address the critical challenge of identifying, maturing and demonstrating the advanced manufacturing tools and techniques needed to accelerate the use of additive manufacturing (AM) processes and facilitating their transition into the growing AM supply chain (both within the state and nationally). The key values of this work to the MIB include:

1. Being a catalyst for advanced manufacturing deployment by reducing the barriers to entry for critical technology.
2. Providing the data needed for regulating authorities to act, thereby simplifying new process qualification.
3. Expanding the use of advanced manufacturing by providing specific use cases for enhanced production efficiency and quality that can be leveraged by the extended manufacturing community.

As part of this project, CCAM is growing the AM-centric parts of its TMA testbed and using it to assess and mature technology that can provide near-term process efficiency to part suppliers. Federal funding, in this case, provides access to near-term term deployable technology which, when supplemented by state funded, collaborative seed projects with universities and industry, creates the technology pipeline needed to enable impactful solutions. Importantly, the expanded testbed can also support the use of these technologies by local suppliers across a broad range of defense and commercial applications.

### **Comprehensive University Engagement**

CCAM served as a collaborator on numerous federal and industry proposals with its university membership base, including letters of commitment and support for Virginia Tech, VCU, ODU, VSU, and UVA on a variety of federal opportunities for funding. Commonwealth support continues to enable CCAM to serve as a key collaborator for Virginia universities pursuing federal research funding, with CCAM's advanced manufacturing expertise, equipment capabilities, and industry connections strengthening university proposals by providing technical expertise and validation



capabilities, industry-relevant research applications, and access to state-of-the-art manufacturing equipment. Examples of collaborations include:

### **VCU AI and Anomaly Detection Research**

CCAM collaborates with Dr. Jayasimha Atulasimha, Professor in the Department of Mechanical and Nuclear Engineering at VCU, where two graduate research students are utilizing real-world data from CCAM to develop an AI model that can detect anomalies in manufacturing processes. This research addresses a critical challenge in AI model development: achieving effective anomaly detection in the absence of available anomaly data that would traditionally be utilized to train AI models to achieve the same level of efficacy. This represents a significant advancement in unsupervised machine learning applications for manufacturing.

### **Virginia State University Additive Manufacturing Partnership**

CCAM hosted two summer interns supported by a National Science Foundation grant secured by Dr. Ali Ansari and Dr. Nasser Ghariban in the College of Engineering and Technology at Virginia State University. These undergraduate students worked at CCAM to learn to utilize laser powder bed fusion (LPBF) additive manufacturing techniques that will support their future studies at VSU. This program's intention is to train students and give faculty hands-on experience with LPBF (VSU intentionally acquired the same type of equipment as CCAM to ensure close collaboration and easily transfer learning), creating a sustainable partnership and revolving opportunities for students and faculty to learn from CCAM researchers to strengthen the VSU program.

## **Regional Leadership and Ecosystem Building Partner**

### **Advanced Pharmaceutical Manufacturing Tech Hub**

CCAM continues to lead one of 31 nationally designated Economic Development Agency (EDA) Tech Hubs, Virginia's Advanced Pharmaceutical Manufacturing (APM) Tech Hub – on behalf of the Alliance for Building Better Medicine (ABBM). The coalition aims to develop a regional biopharmaceutical ecosystem that can transform what is possible for an end-to-end pharmaceutical manufacturing footprint, thereby addressing drug shortages and increasing the nation's capacity to reshore manufacturing of its most critical medicines. The effort will increase the availability and economic development of a US-centric supply chain critical to our nation's security. The need to reduce dependence on foreign actors in the manufacture of critical medicines drives our aspirational goal of reducing the supply chain distance by three orders of magnitude: going from 25000 miles today (**Figure 3**) down to 25 miles in the future state (**Figure 4**).

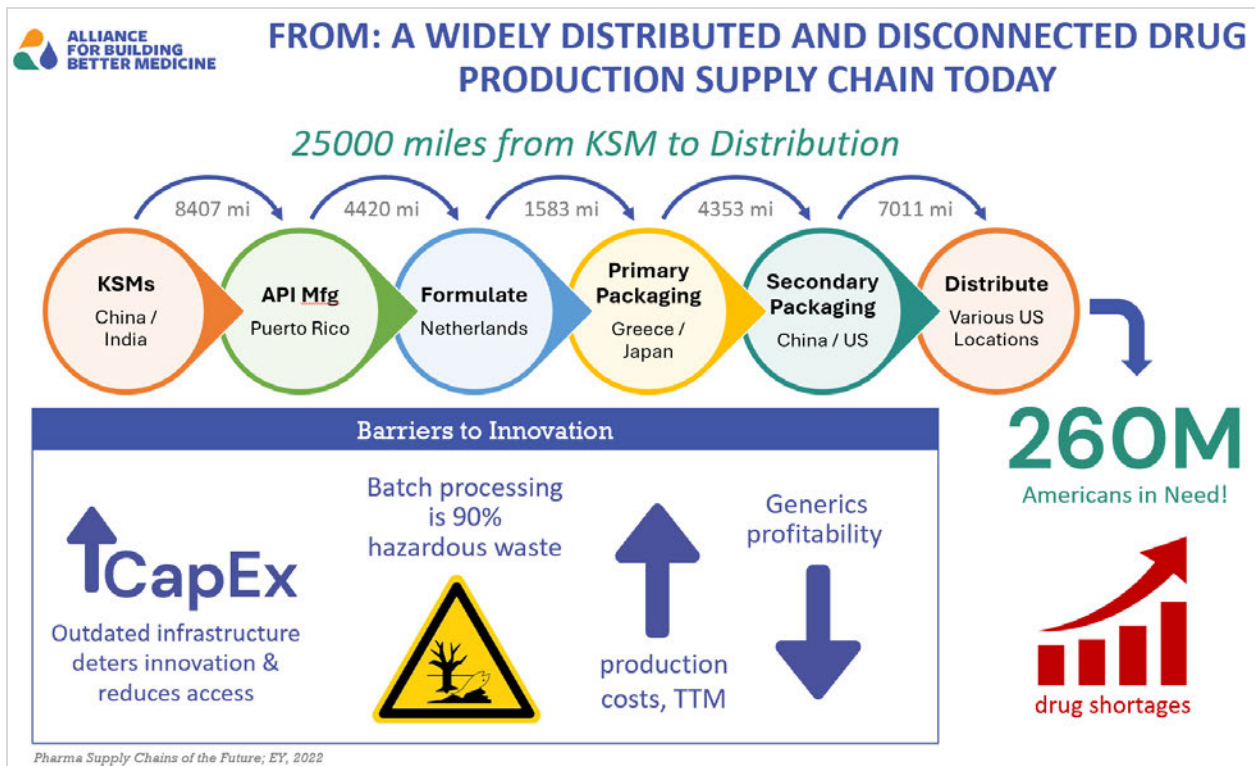


Figure 3: APM Tech Hub Vision (Current)

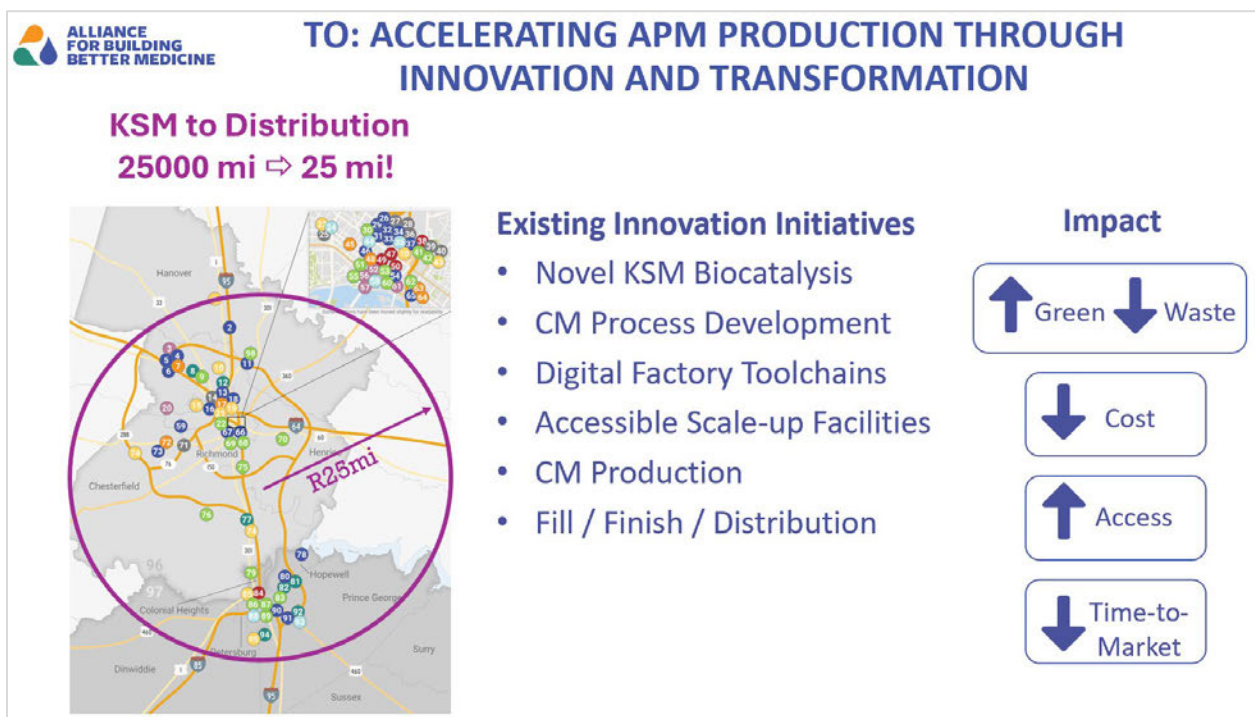


Figure 4: APM Tech Hub Vision (Future)



This collaborative work spearheaded by the ABBM has had a hand in growing the attractiveness of VA as a viable landing spot for large multi-nationals. New companies that have committed to VA include Novo Nordisk, AstraZeneca, and Lilly, which will result in multi-billion-dollar total investments. Workforce development has been a key driver for these companies, and CCAM, along with ABBM, has been working with Reynolds Community College (RCC) and the Community College Workforce Alliance (CCWA) to develop cradle-to-grave programs for the pharma vertical. A more comprehensive view of CCAM's Workforce initiatives can be found in the subsection below.

## Workforce Development Excellence: Building Tomorrow's Talent

Commonwealth support continues to enable CCAM to serve as a catalyst for comprehensive workforce development across Virginia's advanced manufacturing ecosystem. From middle school STEM education through university partnerships and professional development, CCAM's talent development initiatives create a seamless pipeline that addresses both current industry needs and long-term economic growth objectives.

CCAM's unique position as a collaborative organization with members from diverse industries, universities, and federal organizations provides valuable insight into technology worker readiness challenges. This year marked significant expansion of proven programs while launching innovative approaches to accelerate the development of highly skilled talent ready to impact manufacturing immediately upon entering the workforce.

## Four-Time VTOP Top Employer: Excellence in Internship Programming

CCAM was named a VTOP Top Intern Employer for the fourth consecutive year, demonstrating consistent excellence in providing meaningful internship experiences that benefit both students and Virginia's economy. This sustained recognition validates the program's value proposition and underscores how Commonwealth investment in CCAM creates measurable workforce development outcomes.

Over the summer, 10 interns (**Figure 5**) completed transformative experiences with teams across CCAM's diverse technical areas including machining, data science, digital systems, materials and



Figure 5: Summer 2025 CCAM Interns

process engineering, and additive manufacturing. All interns were from CCAM member universities, strengthening the talent pipeline between Virginia's higher education institutions and advanced manufacturing industry.

*"CCAM was a fantastic place to both work and learn. I pride myself on being a lifelong learner—CCAM showed itself as a great place to learn new things from the very beginning. My mentor and all employees (regardless of whether they were involved with additive manufacturing, Data Analytics, HR, etc.)"*

**Intern Experience Quote**

Since its inception in 2012, CCAM's Internship Program has accommodated over 250 interns and Graduate Research Assistants, who represent a potential combined economic impact of nearly \$100M to the Commonwealth, annually. At CCAM, students build skills by directly interacting with manufacturing materials, tools, and processes while solving real-world challenges. They engage in an immersive environment where CCAM mentors guide them toward effective solutions and gain insights into manufacturing technology applications that improve quality, productivity, and outcomes.

The program's four-year track record of recognition demonstrates Commonwealth support continues to enable sustainable talent development that addresses Virginia's long-term workforce needs in advanced manufacturing. Students develop skilled workforce capabilities ready to impact Virginia's advanced manufacturing sector immediately upon graduation, with interns gaining experience across multiple high-demand technical disciplines while creating a pipeline of students familiar with CCAM's capabilities and member university programs. Our members at CCAM, and the manufacturing industry at large, are benefiting from this high-impact experiential learning program.

## Good Jobs Challenge: Leveraging Tech Hub Leadership for Regional Impact

Building on CCAM's leadership as the designated organization for the Advanced Pharmaceutical Manufacturing Tech Hub, the Richmond-Petersburg region secured a \$3.9M Good Jobs Challenge (GJC) award from the U.S. Economic Development Administration. While CCAM is not named as a subrecipient for this grant, CCAM's regional leadership and subsequent strategy development in securing the EDA Tech Hub designation played a critical role in the region's ability to leverage the Tech Hub workforce proposal into this substantial federal workforce development investment.

CCAM serves as a key partner to J. Sargeant Reynolds Community College, the lead backbone organization for this GJC initiative. Through close collaboration, CCAM supports the implementation of the grant and the region's success in growing the advanced pharmaceutical manufacturing industry. This partnership model demonstrates how Commonwealth support continues to enable CCAM to serve as a regional catalyst that generates significant federal funding opportunities for Virginia's educational and economic development partners.

The project directly supports critical national priorities that align with CCAM's Tech Hub leadership: reshoring pharmaceutical manufacturing to strengthen U.S. supply chain independence, building robust U.S.-based pharmaceutical supply chain capabilities, resolving the country's drug shortage crisis through expanded domestic manufacturing capacity, and growing advanced pharmaceutical manufacturing workforce capabilities across two severely distressed cities.

The initiative anticipates 228 job placements in advanced pharmaceutical manufacturing and biotechnology sectors, directly contributing to Virginia's high-paying job creation in emerging industries focused on biotechnology, medical technology, genomics, synthetic biology, robotics, automation, and advanced manufacturing.

## GO TEC Expansion: \$1 Million Investment in STEM Education Infrastructure

In mid-June, CCAM was awarded a GO Virginia grant totaling \$971K to implement GO TEC® Career Connections labs in five schools across Region 4. This milestone represents a significant step forward in expanding access to hands-on STEM education for middle school students and building a robust talent pipeline for high-demand careers in technology and engineering.



The expansion includes new GO TEC labs in Charles City County High School, Prince George County's JEJ Moore Middle School, Richmond City's Dogwood Middle School, Richmond City's Lucille Brown Middle School, and Richmond City's Thomas Boushall Middle School. Upon completion, Region 4 will host 13 GO TEC labs across 12 schools in 10 school divisions, demonstrating the collaborative success of CCAM, the Institute for Advanced Learning and Research (IALR), Brightpoint Community College, and Virginia State University.

These labs will be equipped to support nine STEM modules aligned with Region 4's Growth and Diversification Plan: Automation & Robotics, IT Coding & Networking, Electrical Engineering, Energy, Manufacturing Engineering, Mechanical Engineering, Metrology, Precision Machining, and Welding. The strategic alignment ensures students are exposed to career pathways that meet regional workforce needs, creating a direct connection between education and economic development.

This expansion represents more than funding success – it's a strategic investment in Virginia's workforce future. By connecting thousands of students with immersive STEM experiences, GO TEC is helping to shape the next generation of innovators and engineers while directly supporting the Commonwealth's economic development objectives.

Students gain exposure to technologies and processes used by member organizations, strengthening relationships with local school systems and educational partners while creating early engagement with students interested in advanced manufacturing careers. This addresses critical workforce shortages through early STEM engagement while preparing students for Industry 4.0 manufacturing environments and creating clear connections between education and manufacturing career opportunities, while inspiring the next generation of manufacturing innovators and problem-solvers.

## Operational Success: Path to Stability

CCAM's operational performance continues to strengthen with exceptional stewardship of Commonwealth resources while delivering accelerating economic returns that validate strategic investments in Virginia's advanced manufacturing ecosystem. Through disciplined financial management, continued focus on revenue diversification, and systematic risk mitigation, CCAM pursues a sustainable growth trajectory that positions the organization for long-term success, while simultaneously increasing the ROI and reducing future reliance on Commonwealth funding.

## Revenue Diversification

Since 2022, CCAM revenues have increased nearly 70%, from \$7.7M in FY22 to \$13.1M in FY25 (**Figure 6**), demonstrating accelerating momentum in both federal and industry partnerships. This growth trajectory positions CCAM ahead of the 3-year mark projected in the FY22 5-year revenue plan, enabling upward revision of future revenue estimates and accelerated progress toward financial sustainability.

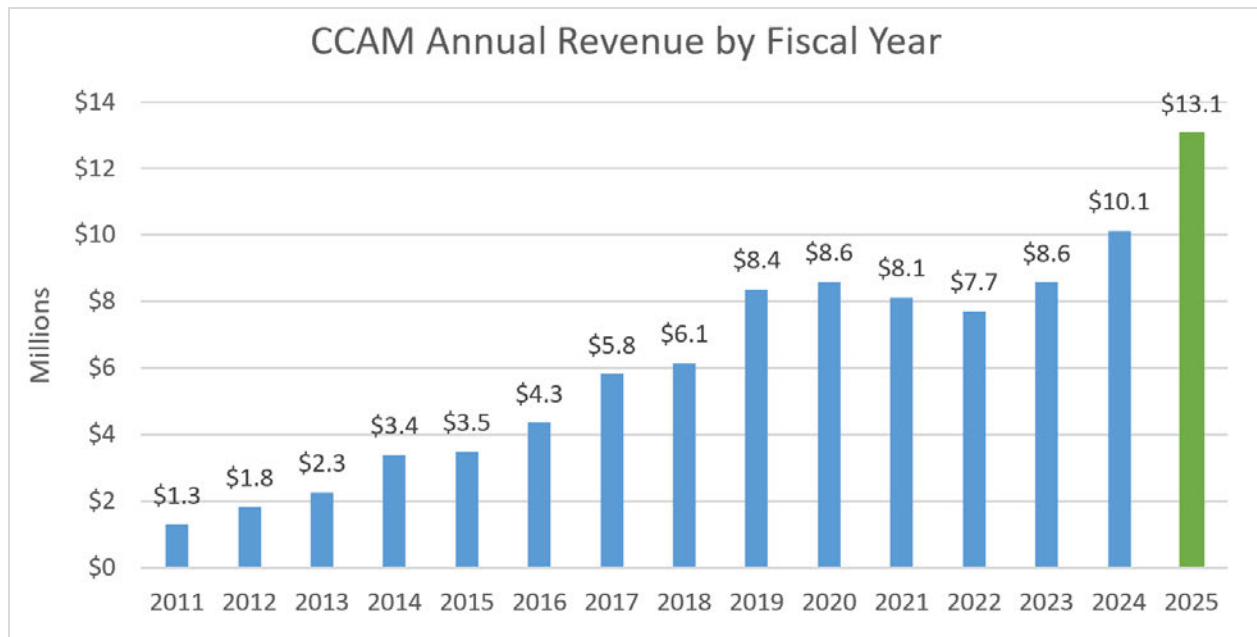


Figure 6: CCAM Total Revenue by Fiscal Year

CCAM's annual federal award revenue has grown from \$498K in 2022 to \$3.1M in 2025 (**Figure 7**), representing over 600% increase in three years, and has been tracking ahead of plan (**Figure 8**). This further validates the effectiveness of the Commonwealth's investment in CCAM federal program development. This exceptional federal funding growth demonstrates how strategic state support creates multiplier effects that attract substantial additional resources to Virginia's advanced manufacturing ecosystem.

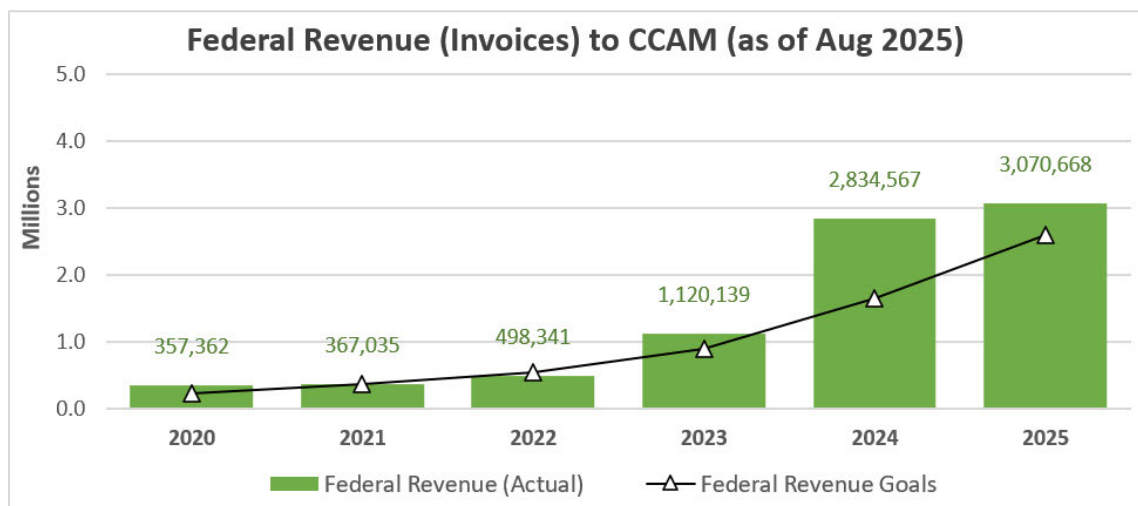


Figure 7: Total CCAM Federal Revenue by Fiscal Year

While we are encouraged by the results, we note that a significant portion of the current award funding being executed is derived from a single federal program. Continued focus remains on expanding the federal portfolio to broaden funding sources and mitigate risk of reliance on any one program. CCAM is active in pursuing a more diversified set of federal programs through several

campaigns underway. While CCAM has not been directly affected at this time, we are navigating potential risks in the federal funding landscape that are driven by federal government reorganization, proposed budget cuts, delays, new policies, termination or non-renewal, and capping of indirect cost rates on current and new grants.

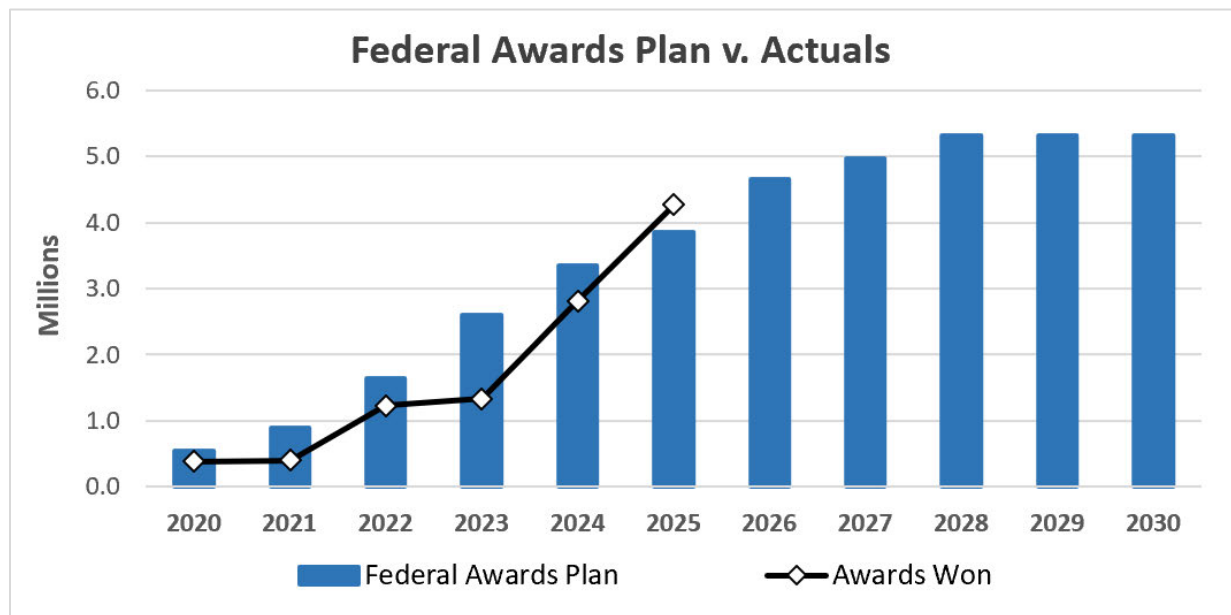


Figure 8: Total Federal Awards Won vs. Plan by Fiscal Year

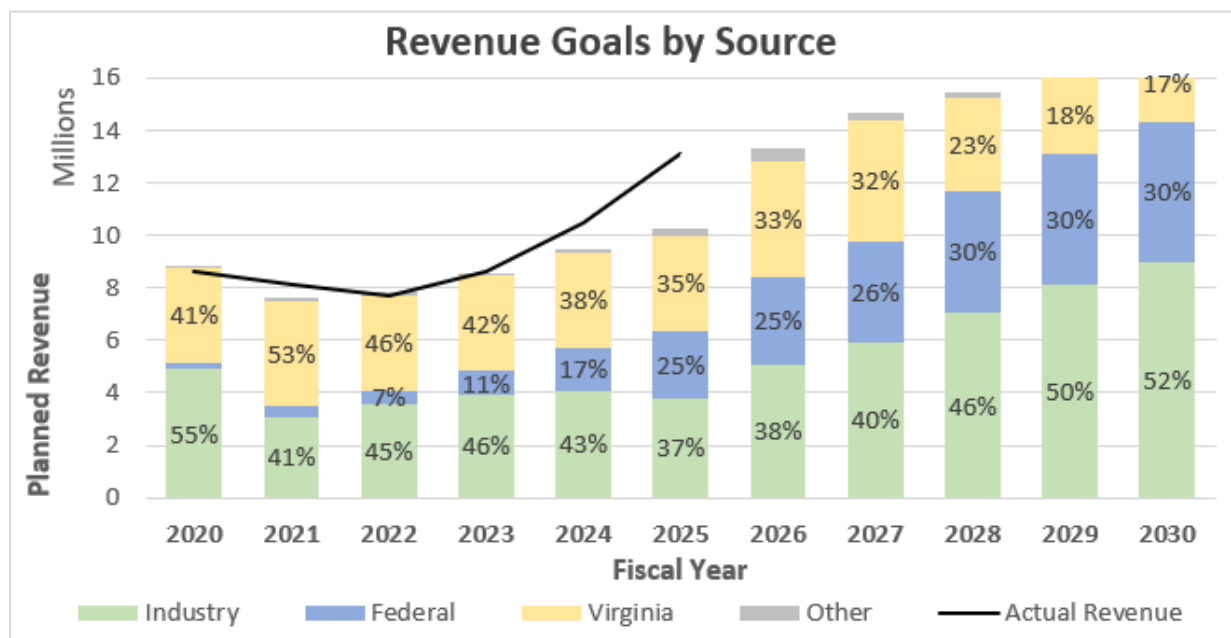


Figure 9: Revenue Goals vs. Actual by Source

CCAM had its highest revenue to date in FY25 at \$13.1M, of which the Commonwealth legislative funding accounted for 24% - down from a peak of 53% in FY21. This performance indicates a very positive trend in revenue diversification from the Commonwealth (**Figure 9**). From a risk perspective,



we must note that a significant portion of total revenue (\$1.3M) was attributed to one-time events rather than from recurring sources, and a majority of the growing industry revenue was derived from one key customer. Even with great progress having been demonstrated, significant efforts are being made to further diversify existing and new industry member portfolios while continuing to build on recent growth in federal awards. The investment shown by the Commonwealth is working, but CCAM is still solidifying the foundation phase for developing portfolio breadth. While CCAM continues to build on recent wins, the need for level funding support in FY27/28 remains as CCAM executes the working strategy and addresses these diversification risks. While funding is still needed, at **\$53M of annual economic impact**<sup>3</sup> CCAM is clearly demonstrating increased impact and ROI for the Commonwealth.

## Strategic Financial Management

CCAM's unrestricted cash position as of September 19, 2025, is \$3.1M. This is a strong position despite a large outstanding accounts receivable balance associated with recent GO TEC grant equipment purchases that require cost match by respective schools before payment. This relatively stable liquidity position (~3 months operations coverage) provides operational flexibility and reduces financial risk while supporting strategic investments in capability and business development.

In FY25 CCAM's balance sheet was significantly strengthened, as the Department of General Service's (DGS) acquisition of the CCAM building was finalized in January 2025. [REDACTED]

[REDACTED] A tremendous effort was made by DGS, UVAF and CCAM to bring closure to this transaction, which put CCAM on firm footing for future growth. The organization maintains strong working relationships with its vendors and partners to ensure that all trade debt remains current.

CCAM maintains a systematic approach to financial risk management, focusing on diversification of revenue sources, conservative forecasting methodologies, and maintenance of appropriate cash reserves to manage operational uncertainties. Key managed risks include federal funding volatility, membership model transition effects, and inflation impacts on operational costs. While federal funding represents binary win/loss outcomes, CCAM strives to mitigate this risk through portfolio diversification across multiple agencies, probability-weighted pipeline management, and strategic timing of proposal submissions. The organization maintains conservative projections while building capabilities that will enhance competitiveness for federal awards across multiple sectors and agencies.

CCAM is in the process of completing its annual audit for Fiscal Year 2025 with an expected designation of an unqualified opinion, demonstrating adherence to rigorous financial standards and

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<sup>3</sup> Linear calculation based on Chmura Economics & Analysis, 2022 report. Chmura's analysis indicates that each dollar of state funding generates \$17.3 in economic impact in the Commonwealth of Virginia.



transparent operational practices. Continued audit excellence provides stakeholders with confidence in CCAM's financial management while meeting all Commonwealth reporting requirements and fiduciary responsibilities.

## Organizational Development and Capability Building

CCAM has made strategic investments in organizational capability through targeted staff expansion in areas of business development, partner success, talent & workforce development, and project management. These investments position CCAM to effectively accelerate and manage growth while maintaining operational excellence and stakeholder satisfaction.

As CCAM continues to grow in the federal space, flow down requirements on government contracts have necessitated enhancement in financial systems, IT capabilities, and rigorous cybersecurity compliance.

Commonwealth funding in the federal award program development is enabling CCAM to develop best-in-class compliance practices which are being leveraged to guide current execution of research on federal contracts. For example, CCAM has recently

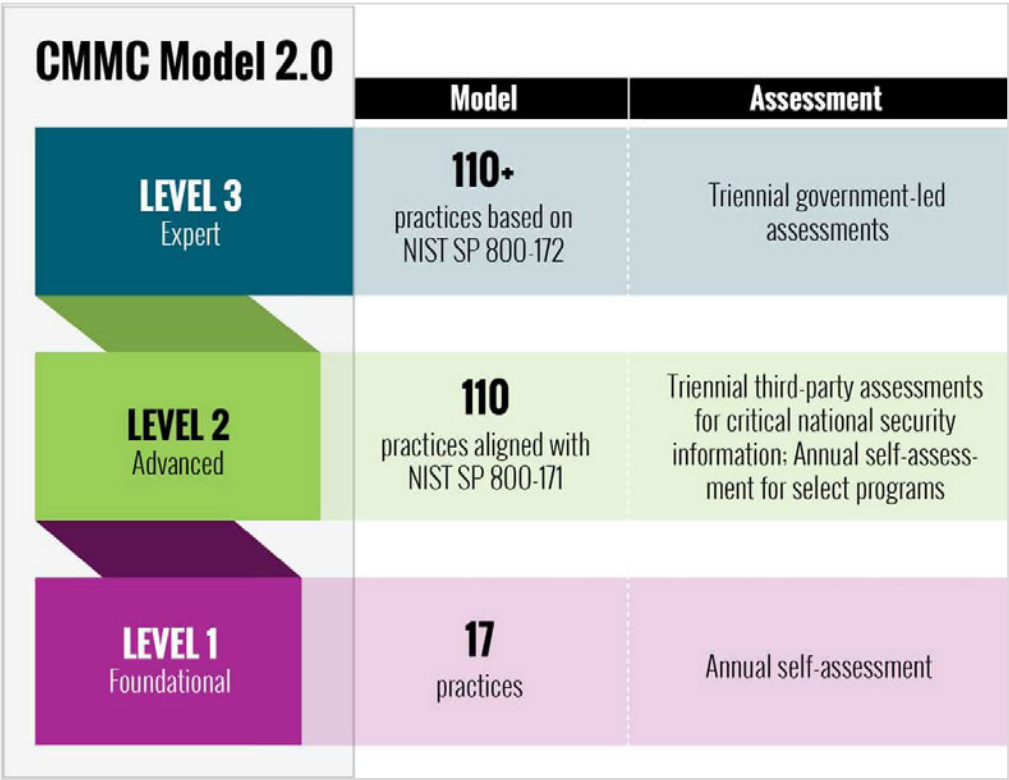


Figure 10: CMMC 2.0

achieved Cybersecurity Maturity Model Certification (CMMC) 2.0 Level 1 compliance and is on track to complete Level 2 compliance in FY26 (**Figure 10**) which is a requirement to handle controlled unclassified information (CUI) on select government contracts/awards.

## HB6001, Chapter 2, Item 115 K.5 Requirements

### (i) MOUs with university partners

There have been no additional MOUs developed with university partners this past year.

### (ii) Funds disbursed to university and private sector partners of CCAM

#### Industry Research Grants

Following the lengthy timing associated with the ratification of CCAM's new membership model, utilization of Industry Grant funds has since accelerated with over \$534K scoped on open projects. These funds are now driving membership growth by enabling individual and collaborative engagement opportunities, expanding critical capabilities, and increasing industry impact. Looking ahead, they will continue to support high-value initiatives that fuel innovation, strengthen member participation, and generate tangible returns across critical sectors within the region and beyond.

Industry Grant Category	Grant Funding
(iii) Matched Project Funding	\$ 140,830
(iv) Seed Projects	\$288,197

429,027

#### University Research Grants

CCAM is using University Grant funds to evolve its partnerships with universities into strategic, collaborative initiatives aligned with federal and industry priorities. These funds continue to support convening stakeholders, building relationships, and developing competitive large-scale proposals. Investments in staff time will enable focused efforts on partnership building, proposal development, and strategic alignment. Seed funding will also be used to generate preliminary data that strengthens federal proposals, creating shared value for both CCAM and Commonwealth universities.

University Member(s)	Detail	Grant Funding
VSU	Project E-103 Intelligent Manufacturing Cell	\$ 47,038
VCU	Project E-117 Additive Manufacturing of Anisotropic Alnico Permanent Magnets: Phase II	\$ 89,792
UVA, VSU, VT	Project E-118 Standardization of Cooperative Processing (CooP)	\$ 9,000
UVA, VSU, VT	Project E-119 CooP Use Case Intuitive Robotic Programming	\$ 19,036

University Member(s)	Detail	Grant Funding
UVA, VSU, VT	Project E-120 CooP Use Case AI-Assisted Work Instruction Platform	\$ 153,634
VT	Project E-127 In-situ Part Quality Assurance in LPBF using Heterogenous Sensor Data	\$ 116,064
UVA, VSU, VT	Project E-134 2024 Summer Intern Capstone Project: Demonstration of Human-Robot Interaction	\$ 68,673
UVA, VSU	Project E-136 Intelligent Manufacturing Course Development and Lecture Support	\$77,018
UVA	Project E-142 CooP Pilot Program	\$188,004
All	Project E-146 Innovation Seed Concepts	\$125
All	Project E-150, E-151 Intern Program Development	\$33,953
		<b>\$ 802,337</b>

### (iii) Other agreements entered into with public and private sectors

CCAM brought on three new Technology partners as industry members in FY25: WAAM3D, Hexagon and Quality Vision International (see page [11](#)).

CCAM continues to lead one of 31 nationally designated Economic Development Agency (EDA) Tech Hubs, Virginia's Advanced Pharmaceutical Manufacturing (APM) Tech Hub – on behalf of the Alliance for Building Better Medicine (see page [13](#)).

CCAM was awarded an additional GO Virginia grant to implement GO TEC® Career Connections labs in five schools across Region 4. This will expand hands-on STEM education for middle school students, building a robust talent pipeline for high-demand careers in technology and engineering (see page [17](#)).

### (iv) Federal Award Program Development

Commonwealth investment in this category has provided a critical foundation that enables CCAM to mature concepts and proposals that are of interest to multiple federal agencies. Significant strides are being made in their marketing and collaborative efforts with industry partners are gaining momentum. The positive trend in pipeline development, awards won, and key connections made provide confidence that more significant wins are coming.

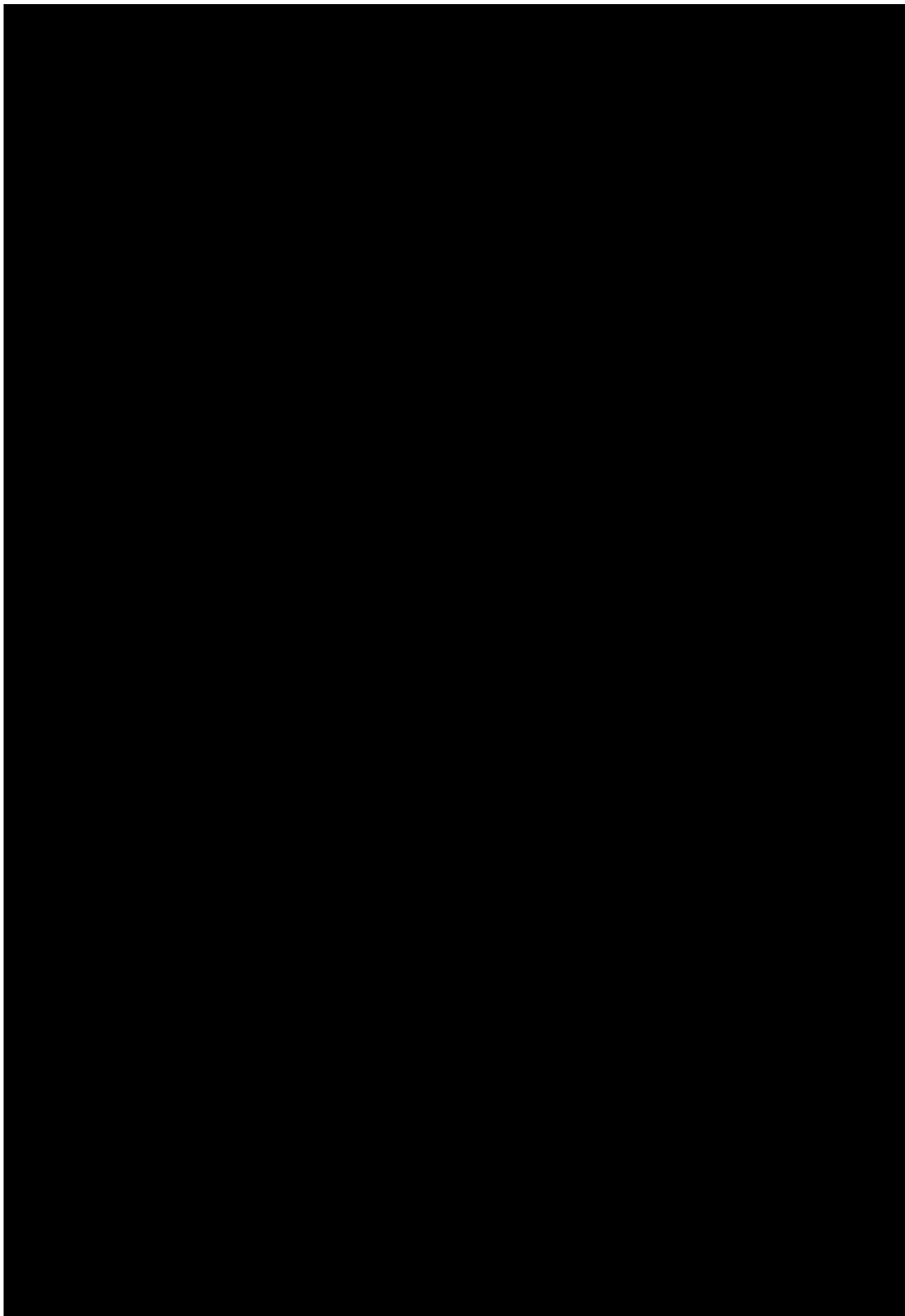


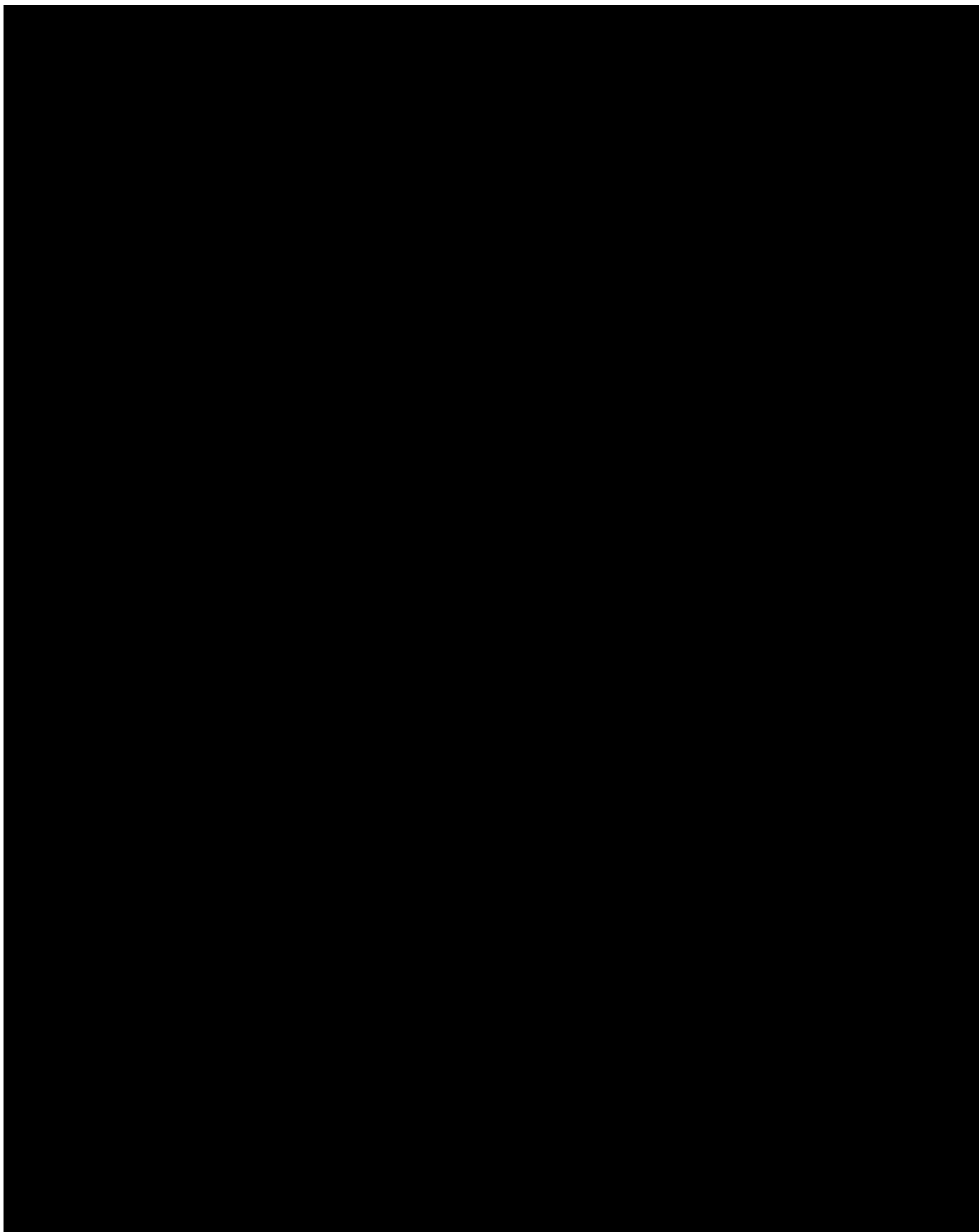
Category	Detail	Grant Funding
Business Development	Engagement with federal agencies, exploration of award solicitation, campaign material development, travel for award related business development, process infrastructure consulting and development (award admin, export control, CMMC compliance).	\$ 231,655
Proposal Development	Concept paper & proposal ideation, development and submission.	\$ 676,446
Non-reimbursable Federal Award Costs	Federal research program costs not reimbursable on federal research awards.	\$ 91,899
		<b>\$ 1,000,000</b>

(v) Additional Information Requested

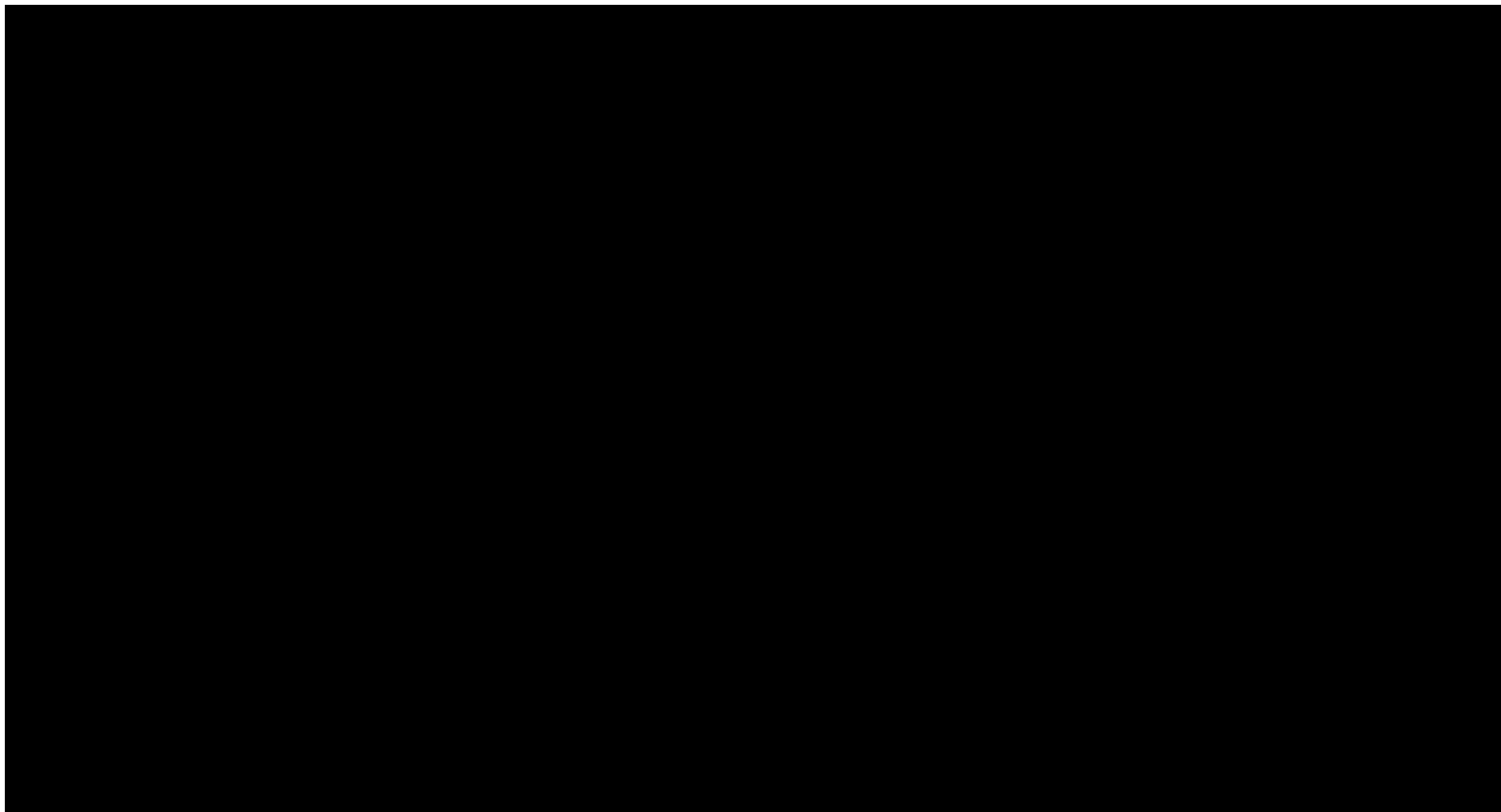
No additional information has been requested at this time.

## APPENDIX (Financial Schedules)









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