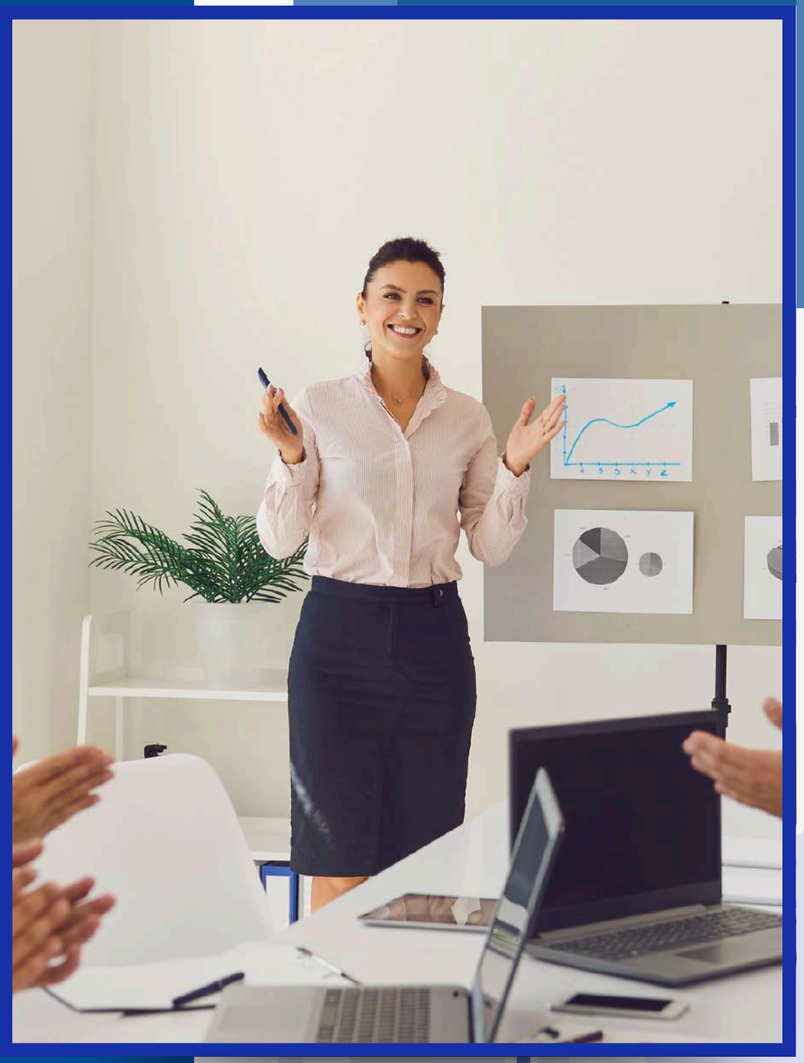
CCS GLOBAL TECH

OVERCOMING AGILE TALENT SHORTAGES IN DOD PROGRAMS

WHITE PAPER

2025

ccsglobaltech.com



INTRODUCTION

As the world progresses simultaneously into an era of technological advancement and ever evolving global threats, the Department of Defense (DoD) faces an unprecedented demand for agility, speed, and innovation in its software and systems development.

The shift towards agile methodologies, those that follow repetitive, incremental, and highly adaptive approaches, are no longer merely a trend but an imperative next step for the DoD. However, this critical transformation is consistently challenged by a severe shortage of skilled agile talent.

This paper dives into the significant residues of this talent gap for national security, dissecting the contributing factors that make it particularly acute within the defense sector. Furthermore, it outlines a comprehensive framework of pathways strategically designed to address these blaring deficiencies, emphasizing the cruciality of targeted training, re-skilling initiatives, and partnerships with specialized educational institutions like CCS Learning Academy. Our aim is to provide a clear roadmap for the DoD to build and sustain the agile workforce necessary for its success in the 21st century.

THE AGILE IMPERATIVE IN DOD: A PARADIGM SHIFT

The DoD's operational environment, especially in the present geopolitical climate, is outlined by constant change with a side of complex and uncertain state of affairs. Modern warfare demands an infrastructure that can be rapidly developed, integrated, updated, and secured in response to threats and ever-evolving technologies.

This makes the structural rigidity and lengthy cycles of the traditional “waterfall” development a significant hindrance to much needed innovations. Waterfall's sequential phases like gathering requirements, design, implementation, testing and deployment often mean that by the time a system is delivered, its original requirements may have become obsolete, or new threats have emerged that it cannot address.

Agile methodologies, such as Scrum, Kanban, and Scaled Agile Framework (SAFe), offer a transformative alternative. They prioritize:

1	**Recurrent Development**	Large projects that are broken down into smaller, more manageable projects, which enables them to be tested and improved upon continuously
2	**Customer Collaboration**	Active collaboration and engagement with stakeholders and consumers to ensure that their project needs are met
3	**Responding to Change**	Doing away with outdated rules of conduct and employing a progressive array of functions that are constantly changing in tandem with new information and requirements
4	**Collaborations between Individuals**	Nurturing confident and collaborative teams who are efficient in their decisions making and execution skills
5	**No Comprehensive Documentation**	Employing functional capabilities at the forefront instead of relying on extensive and time-consuming documentation

AGILE TALENT SHORTAGE: THE WHOLE TRUTH

While there has been active efforts into adopting Agile methodologies to improve the DoD's software development and acquisition processes, there is still a stark shortage of notable Agile talent:

Cyber Workforce Shortage: A 24% shortfall in its civilian cyber workforce

While this may not be strictly Agile, it still does affect Agile development as it depends on strong cyber security capabilities. The DoD faced a whooping 24% shortfall in its civilian cyber workforce, which was reduced to 16% last November (2024). This points towards an innate struggle in attracting and retaining tech-based talent.

Difficulty in Adopting Agile Metrics:
Out of 21 selected IT business programs in the DoD, 10 were using the Agile approach. 4 of those programs did not use the desired metrics or management tools

A review by the Government Accountability Office (GAO) found that out of 21 selected IT business programs in the DoD, totaling $9.1billion in expenditures for the financial years 2022-2024, only 10 programs were using the Agile approach in their software methodologies. Out of these 10, four programs did not use the required metrics and management tools for tracking customer satisfaction and software development. This indicates a gap in effective Agile implementation and measurement.

Cost and Schedule Changes in IT Programs:
Of the 21 reviewed IT business programs, 15 reported cost and/or schedule changes. 13 of those had cost increases, seven of those had schedule delays

From the GAO review, of the 21 reviewed IT business programs, 15 programs reported cost and/or schedule changes since January 2022. This included 13 programs with cost increases, a median of $163.3million, and seven with schedule delays, a median of 24 months. While this is not directly related to Agile shortage, it still does allude to issues that are exacerbated by the lack of skilled professionals to properly implement and manage Agile projects.

Skill Gap : Aerospace and Defence-A talent gap which would cost up to $300million annually

The gap, as research by McKinsey, highlights a talent gap in the broader A&D sector, of which DoD is a part of. Skill Gap, where employees lack the necessary skills; Will Gap, where employees are not energised or engaged by their work; and Time Gap, where employees spend time on low-value activities. McKinsey found that it would cost up to $300million annually in cost avoidance and bottom-line impact.

The shortage is not limited to a single role but is the vast expanse of the entire spectrum of critical positions essential for effective Agile implementation and scaling within complex defense programs.

There are some primary drivers that pose challenges to Agile adoption that are beyond the scope of talent acquisition and retention.

Barriers	Category
Process Rigidity	Existence of slow, linear “waterfall” development; acute lack of flexible contracting
Bureaucratic Overhead	Incompatibility between traditional documentation requirement and Agile outputs
Cultural Inertia	Resistance from middle management in the form of “no need for that” mindset
Policy Gap	Insufficient formal guidance and policies for widespread Agile implementation
Consumer Access	Lack of consistent, real-time end-user engagement, which is a cornerstone for Agile implementation and feedback loops

Problem Areas on Agile Adoption for DoD programs:

- Self-Proclaimed Agile vs Actual Implementation: A 2020 GAO report found that while 22 major DoD defense acquisition programs reported using “Agile” development methods, many did not meet industry standards.

- 16 out of 22 self-described Agile programs reported software updates taking longer than the standard 6-week timeframe for Agile programs. Additionally, 13 of these took up more than seven months per update, nearly 5 times more than the industry standard.

- Lack of Modern Tool Adoption: The absence of a plan or identified resources to enable the adoption of modern engineering tools across all programs in DoD makes it difficult to yield the full benefits of Agile programs. Modern tools, as with all things, are required for continuous development, integration and automated testing.

- Competition with the Private Sector: The DoD struggles to compete with the private sector for top technology talent due to compensation disparities. For instance, entry level software engineers in the Aerospace and Defence sector may earn only half as much as those in major tech companies.

The roadblocks to adopting and implementing an industry standard Agile program are many and there may be issues relating to older staff not relenting to newer approaches because “why fix when it’s not broken?”.

While that may be a great point, to counter that, in the name of innovation that is needed to become better, even when processes seem to work perfectly well, sectors like Aerospace and Defense cannot wait for a moment where the process ceases to work as that would be disastrous. To be constantly vigilant through integrating newer approaches, welcoming talent that is cleared by federal agencies who are not only skilled in their work but are also able to think outside the box and on their feet, is the sure fire way to move ahead of others.

Why Agile for DoD Programs?

The answer is simple: to advance with a global march towards innovation and technological advancement. For something as ingrained within organizations like bureaucracy, it started with the traditional aspects as the stepping stones to what we see bureaucracy as today.

However, as we have seen above, extensive and overly complicated documentation systems, hiring delays and an inevitable “who needs that?” attitude that will rise due to overworked talent and management, a move towards simplified processes and development structures will make the DoD stand out in more ways than one.

Benefit Area	**Improvement**
Adaptability and Responsiveness	Faster response to evolving threat requirements (Visure solutions, 2023)
Program Acceleration	70% acceleration of Systems Requirement Review (SRR) milestone (Agile Alliance, 2009)
Product Quality	Early detection of defects, leading to continuous improvement (Visure Solutions, 2023)
Cost Efficiency	Reduced rework, optimized resource allocation and faster output deliveries (Planisware)
Delivery Time	With the help of DoD’s Software Fast Track (SWIFT) program, optimized and sped-up acquisition and rapid development of resilient software (Breaking Defense, 2025)

Despite these compelling advantages, the transition to Agile is a big organizational step, requiring not just new processes and tools, but a fundamental shift in mindset, cultural norms, and, most critically, the amassing of new, specialized skill sets across the workforce.

Accessing High Demand Agile Roles Within DoD:

Role	Scope
Certified Scrum Masters	- Project Facilitators - Scrum Team Guide - Coach Scrum Teams - Constant Risk Assessment and Mitigation
Experienced Product Owners	- Customer Liaison - Managing and Prioritizing Product Backlog - Core Support to the Development Team
Skilled Agile Coaches/Consultants	- Crucial to Organizational Transformation - Mentor to Senior Leadership - Train New Teams - Mould Agile Frameworks in tandem with DoD programs - Successful Adoption and Scaling of Agile Principles
Technically Proficient Developers and Engineers	- Expertise in Modern Programming Languages - Expertise in Test-Driven Development (TDD) - Expertise in Continuous Integration/Continuous Delivery (CI/CD)
Cybersecurity Professionals with Agile Context (DevSecOps Experts)	- Integrate Security Seamlessly into Every Stage of the Agile Lifecycle - Thorough Understanding of Agile Development - Ability to Embed Security Requirements
Agile Project/Program Managers	- Unique Blend of Traditional Program Management Acumen and Agile Leadership Principles - Oversee Complex, Multi-Team Programs Within An Agile Framework - Balance Strategic Oversight, Resource Allocation, Risk Management, and Consumer Communication

Impact on DoD Programs: Consequences of Agile Talent Gaps

The persistent Agile talent gap has far-reaching consequences, directly compromising the DoD's ability to fulfill its mission:

Failed or Stalled Agile Implementations: Without adequately skilled personnel, Agile initiatives risk becoming "Agile In Name Only" (AINO), failing to deliver promised benefits and potentially eroding confidence in the methodology.

Delayed Capability Delivery: A lack of expert teams and leaders slows down the development and deployment of critical software and systems, impacting user readiness and delaying responses to emergent threats.

Budget Overruns and Waste: Inefficient Agile implementations due to talent gaps can lead to rework, missed targets, and increased costs, wasting taxpayer dollars and diminishing public trust. Which then leads to more rework, missed targets and increased costs, ending in a loop of never-ending obstacles.

Reduced Innovation and Technological Disadvantage: An inability to attract and retain Agile talent marrs the DoD's capacity to adopt and leverage cutting-edge technologies, e.g. machine learning, quantum computing, effectively, potentially ceding technological superiority to adversaries.

Erosion of Morale and Trust: For those within the DoD who recognize the need for Agile transformation, the lack of resources and skilled personnel can lead to frustration, burnout, and a decline in morale.

Impact on DoD Programs: Consequences of Agile Talent Gaps

Addressing the Agile talent shortage requires a concerted, multi-pronged, and long-term strategic approach. It must integrate internal talent development, holistic external partnerships, and fundamental cultural and process transformation.

Here's a look at some ongoing efforts and potential solutions to overcoming shortages:

Initiative	Metrics	Impact
Workforce Development	- 700+ EWD Projects - 500,000+ Trained - 34,000+ certified/apprenticed through MIIs	Building a competent and agile workforce
Skill Frameworks	8 new software engineering roles added to Defence Cyber Workforce Framework	Standardization and Recognition of critical Agile and Development skills
Recruitment & Retention	Established Scholarship and Rotational Programs	Attraction as well as retention of digital and agile talent
Cultural and Training Focus	Gradual Agile introduction: training, coaching and mindset shift	Overcoming organizational inertia and ensuring effective Agile implementation
Industry Partnerships	Contracts with specialized Agile firms	Accessing cutting-edge expertise and critical digital solutions
Agile Maturity and Governance	Focus on standardizing modern metrics (deployment frequency)	Providing clear visibility into Agile adoption progress, identifying bottlenecks, and enabling continuous improvement

The Indispensable Role of Training and Education Partners

The magnitude of the Agile transformation required by the DoD is immense, necessitating sturdy support from external training and education partners. Organizations specialised in federal staffing are uniquely equipped to serve as critical enablers in bridging the agile talent gap by offering:

Specialized DoD-Centric Agile Training: Federal staffing agencies are equipped to deliver highly customized courses that directly address the specific regulatory frameworks (e.g., DoD Instruction 5000.87, Agile Software Development), security requirements, and operational nuances specific to defense programs. This ensures that training is immediately relevant and applicable.

Comprehensive Certification Pathways: Guiding DoD personnel through widely recognized Agile certifications (e.g., Certified ScrumMaster, Certified Product Owner, SAFe certifications, PMI-ACP, DevOps certifications) enhances professional credibility and ensures a consistent baseline of Agile proficiency across the workforce.

Agile Coaching and Consulting Services: Beyond classroom training, agencies that provide cleared federal hiring are qualified to offer experienced Agile coaches who can embed with DoD teams, providing invaluable on-site guidance, mentorship, and real-time problem-solving during the critical transition and implementation phases. This includes facilitating agile ceremonies, resolving conflicts, and guiding continuous refinement.

Continuous Learning Programs and Communities of Practice: Providing ongoing education, workshops on emerging Agile trends, and facilitating communities of practice allows DoD Agile professionals to stay abreast of the latest methodologies, tools, and best practices, strengthening a culture of lifelong learning and knowledge sharing.

By strategically partnering with expert institutions, for instance CCS Learning Academy, the DoD can significantly accelerate the upskilling of its workforce, standardize its agile lexicon, and cultivate a deeply ingrained culture of continuous learning and adaptation—all essential for sustained success in a rapidly evolving threat landscape.

Train to Gain: Why training for Agile Methodologies is an investment into the future

To modernize in an impactful way, training is imperative. Moving away from rigid, multi-year “waterfall” approaches to embrace the speed and adaptability of Agile requires faith in the leap, that training by federal staffing agencies help secure.

➔ Fostering a cultural shift towards Agile Principles: Agile training is crucial for overcoming the DoD’s traditional hierarchical and bureaucratic culture, as it helps personnel, especially those in leadership positions, understand the “why” behind Agile. A comprehensive training addresses resistance to change by providing clear guidance and demonstrating success, making the DoD a more appealing environment for top tech talent.

➔ Standardizing Agile Practices and Improving Implementation:

Consistent training is vital to ensure all DoD personnel involved in software development and acquisition share a common understanding of Agile principles, frameworks like Scrum and Kanban, best practices and overcoming various interpretations.

Moreover, training can be specifically tailored to the unique demands of DoD programs, addressing security protocols, regulatory compliance, and complex integration challenges. This customized approach ensures Agile methodologies are adopted effectively and deeply integrated, rather than just superficially applied, within the DoD's specific operational context.

➔ Enhancing Talent Attraction and Retention: Investing in comprehensive Agile training directly addresses the DoD's talent gap by making it a more attractive employer for skilled software developers and engineers who value continuous learning and modern work environments. By offering clear career pathways through training and certification, the DoD demonstrates a commitment to professional growth, which significantly improves retention.

This strategic investment directly tackles existing skill gaps within the cyber and software workforce, equipping current personnel with in-demand Agile competencies and fostering a vital culture of continuous learning and adaptation essential for remaining competitive in the evolving technological landscape.

KEY TAKEAWAYS

- The DoD's "waterfall" development is too slow for modern threats, making Agile methodologies essential for rapid, adaptable and secure system delivery.
- The DoD's severe Agile talent shortage across critical roles, exacerbated by rigid processes, bureaucracy, cultural resistance, and policy gaps, poses a significant national security risk.
- Agile adoption in the DoD offers significant benefits, including faster threat response, accelerated programs (like 70% faster SRR), improved quality, greater cost efficiency, and quick delivery of critical capabilities.
- Employing a holistic strategy to drive internal skill-building, well thought out partnerships, enhanced talent attraction/retention, process/tooling modernization, and leveraging ML for talent management.
- Specialized training partners like CCS Learning Academy are crucial for the DoD, providing tailored, hands-on, and certified agile training, along with coaching and continuous learning, to effectively build and sustain an agile workforce.
- Comprehensive Agile training for federal staff is essential for the DoD to modernize, shift its culture, standardize practices, and enhance talent attraction and retention by providing critical skills and career pathways.

CONCLUSION

The Agile talent shortage represents one of the most significant impediments to the Department of Defense's ability to innovate, adapt, and deliver critical capabilities at the speed of relevance. Overcoming this challenge is not merely an operational goal but a strategic move that directly impacts national security.

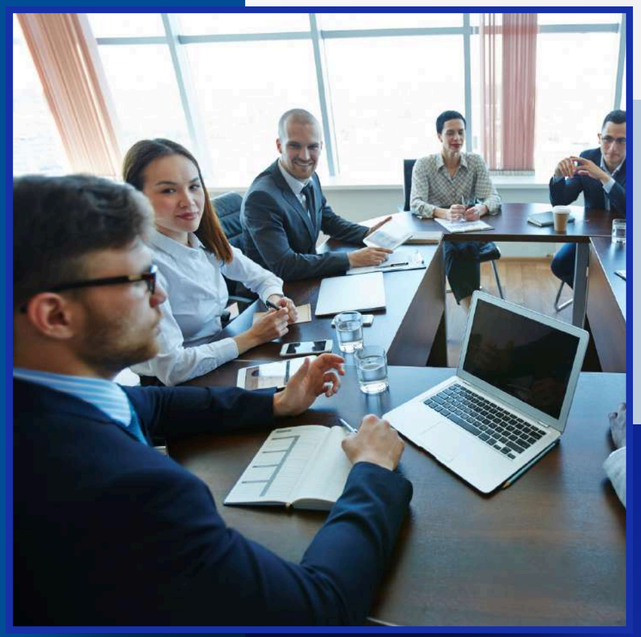
By embracing a comprehensive and proactive approach that includes:

- Aggressive internal capability building and re-skilling initiatives for its existing workforce.
- Cultivating robust external partnerships with industry, academia, and, critically, specialized training providers like CCS Learning Academy.
- Implementing aggressive talent attraction and retention strategies that make the DoD an employer of choice for agile professionals.
- Systematically optimizing processes, modernizing tooling, and fully embracing DevSecOps.
- Intelligently leveraging advanced technologies like AI/ML for talent management.

The DoD can systematically address its Agile talent deficit. The future of national security depends on the DoD's capacity to leverage Agile methodologies to develop and deliver capabilities with unprecedented speed, resilience, and adaptability. Investing in its people, enriching a truly agile workforce, and building long lasting partnerships are the cornerstones of this critical transformation. This strategic investment in human capital will ensure the DoD remains at the forefront of technological superiority and mission effectiveness for decades to come.

If you're looking to upskill your team, solve cleared talent shortages, or implement agile development within mission-critical environments, we're here to help.

Schedule Your Free Strategy Call



CCS GLOBAL TECH

THANK YOU

FOR YOUR ATTENTION AND PARTICIPATION

+1-858-208-4131 +1-858-683-2424

info@ccsglobaltech.com

ccsglobaltech.com