

BOOZ ALLEN COMMERCIAL: SOLVING INDUSTRY'S MOST COMPLEX AND SOPHISTICATED CYBER CHALLENGES

WHY WE FIGHT

At Booz Allen Hamilton, our singular purpose is to empower people to change the world. Nowhere is that more critical than in the world of cybersecurity today. It's our core belief that our connected society can only flourish if cyber is done right.

Digitization brings enormous benefits. With it, organizations can grow rapidly, confident that technology will accelerate and facilitate business. At the same time, they face substantial risk that their operations will be impacted, because current cyber approaches can't keep up with the scale of the challenge or how threats are evolving. Despite all the rhetoric and investment in talent, tools, and processes, companies are still encountering devastating cyber incidents. And the challenge is spreading like a digital wildfire across the entire business ecosystem – now impacting cloud services, supply chain, production, and even products and services.

That's where Booz Allen Commercial comes in. In our U.S. Government business, we provide a range of services including cyber security, but also engineering, analytics, digital solutions, and other leading capabilities. Our Commercial business is different. For our Commercial clients, we are singularly focused on delivering world-class cyber, with a mission to defend and enable society's most critical industries and companies.

Our passion is solving the complex and the consequential: those cybersecurity challenges that enable businesses to thrive in the marketplace. Having founded the management consulting discipline more than a century ago, we combine our consulting heritage with deep cybersecurity practitioner experience, gained from tackling the highest-profile cyber incidents and challenges across the public and private sectors. Armed with this two-fold value proposition, our Commercial practice is prepared to engage, ready to fight, and positioned to lead.

WHO WE ARE: FIGHTERS FROM THE FRONT LINES OF INDUSTRY

Booz Allen operates the largest cyber practice in North America. While the firm is primarily known for its work with the defense and intelligence communities of the U.S. Federal Government, Booz Allen Commercial works with leading businesses across the most important industries, focusing on the Fortune 500 and Global 2000. The Commercial team operates within a subset of the overall cyber market: advanced cyber defense, an area with the most consequential cyber issues and the fewest available effective solutions.

Our 100-year heritage in management consulting positions us to serve as trusted advisors to senior leaders, helping them understand and make the toughest strategic choices. And our decades of hands-on, technology-focused cyber work gives us the tactical mindset that works in perfect concert with our strategy capability. Advanced cyber requires relentless preparation, along with constant attention, testing, and refinement. It's our unique blend of strategy and technology tradecraft that brings clients world-class cyber defense.

Working with Booz Allen immediately matures an organization's security posture; we don't need months to figure things out. At the helm of our practice are seasoned practitioners who have served as CISOs and led clients through the most successful cyber transformations. Across all levels, our practitioners possess hard-earned cyber expertise. Booz Allen delivers a combination of deep technical practitioners and cyber-focused management consultants whose experience is unparalleled -- we know how cyber attacks happen and how to defend against them. Our experts are the experts; our senior leaders are in the market serving clients, acting as trusted advisors to CxOs and frequently invited to brief boards of directors.

Booz Allen Sets the Standard

Booz Allen is the only company in the world to hold all three of the U.S. Government's elite cybersecurity accreditations...

- 1) **National Security Agency (NSA) Cyber Incident Response Assistance (CIRA)** - NSA's CIRA accreditation distinguishes Booz Allen as a qualified provider of rapid, onsite incident response and intrusion detection support.
- 2) **NSA Vulnerability Assessment Service (VAS)** - NSA's VAS accreditation distinguishes Booz Allen as a qualified provider of security scanning and vulnerability assessment services.
- 3) **GSA Highly Adaptive Cybersecurity Services** - As a holder of all four GSA Highly Adaptive Cybersecurity Services special item numbers, Booz Allen is pre-vetted to provide agencies with critical cybersecurity support.

...along with several other notable accolades:

- 4) **Agent of the Security Control Assessor (ASCA)** - As an ASCA, Booz Allen is authorized to perform cybersecurity risk assessments on systems and devices intended for use on U.S. Air Force networks.
- 5) **CREST Certification** - Booz Allen has received CREST's internationally recognized cybersecurity accreditations in the areas of incident response, penetration testing, and threat intelligence.
- 6) **MITRE CVE Numbering Authority** - Booz Allen is authorized to add newly discovered software and system vulnerabilities to MITRE's archivally numbered list of common vulnerabilities and exposures (CVE).

These distinctions demonstrate our commitment to delivering highly trained cyber professionals, robust tradecraft and processes, and industry-leading technologies in the defense of the most critical missions out there -- not just in government, but also in the commercial sector.

We use real adversary insight to guide the design and implementation of tangible cyber defense capability. A rapidly evolving adversarial domain characterizes today's cyber landscape, necessitating that cyber solutions contain a robust mix of capabilities, tuned for the unique environment. This isn't about panacea technologies or lightweight general management consulting; we partner with clients for the long term, devising and sustaining programs that reinforce and accelerate the business. Our strategies, tools, and tactics are adaptive, powerful, and proven, and our people hold more than 6,800 individual cyber certifications, including Certified Information Systems Security Professional (CISSP), Offensive Security Certified Professional (OSCP), and Certified Ethical Hacker (CEH).

We are interwoven into the fabric of the global cybersecurity industry:

- **Standards Development:** Booz Allen developed a number of NIST 800 series Special Publications, (including 800-53A), literally writing the cybersecurity book for civil government. These standards now serve as the foundation for strong, defense-in-depth cybersecurity within enterprise organizations. We also contribute technical expertise to evolving cyber domains such as Operational Technology (ISA/IEC 62443).
- **Ranking:** In 2018, Frost & Sullivan ranked us #1 in Professional Security Services North America and #2 in Total Professional Security Services and Managed Services North America.
- **Industry-Specific Engagement:** Booz Allen is intimately involved with multiple Information Sharing and Analysis Centers (ISACs); we are a founding member of the Auto, Healthcare, Financial Services, Oil & Natural Gas, Defense Industrial Base, and Retail ISACs.
- **Think Tanks and Academia:** Actively working with leading think tanks, such as New America, to drive cyber policy initiatives at the national and international levels. Orchestrating the design of academic degrees and curriculums, such as with NYU and New York's Cyber Command.
- **Exercises and Competitions:** We run some of the most important cyber simulations in the world, including the DHS Cyber Storm exercise. We've won many of the most demanding, cutting-edge technical competitions, including Digital Bond's S4 ICS Capture the Flag.

HOW WE FIGHT: BUSINESS-FOCUSED, INTELLIGENCE-DRIVEN CYBERSECURITY

To thrive in the digital world, enterprises need fresh approaches to cyber, customized to their specific business needs and industry requirements. Only Booz Allen provides clients with adaptive, business-oriented strategies grounded in dynamic adversary intelligence and operational experience. Our heritage and foresight into the future of cyber informs boardrooms around the world. We do more than identify the issues – we accelerate advanced cyber defense solutions vertically and horizontally across enterprises, delivered through world-class consulting and cutting-edge managed services.

Our singular purpose in Booz Allen Commercial is to fuse and deliver world-class strategy and technology tradecraft to solve the world's most complex and sophisticated cyber challenges. Operating at all "layers" of the challenge, we provide cyber capabilities to the private sector across the domains of IT, Operational Technology (OT), Cloud, and Connected Products & Services.

These capabilities are:

- 1) **Assess & Design** a better way forward
- 2) **Transform & Build** programs and capabilities
- 3) **Operate & Deliver** sustainable capabilities
- 4) **Respond & Recover** from incidents

Let's take a closer look.

1) **Assess & Design**

Establishing robust cyber strategy and associated tactical plans for the future means taking a business-focused, risk-based approach to analyzing an environment, and crafting a path forward. We serve boards, senior executives, and operational directors by assessing and designing programs and capabilities that unlock progress, effectively and efficiently. We start by completely understanding the business – where they are going, what their technology strategy is, and what the priorities are (e.g., business processes, critical assets). This gives us the foundational knowledge to decipher real cyber risk scenarios, prioritize needs, and develop an actionable cyber strategy and roadmap, design technical schematics, and craft an overall operating model.

Booz Allen Commercial Delivers Advanced Cyber Defense to the Fortune 500 and Global 2000

TWENTY NINE OF THE FORTUNE 100 TO INCLUDE:

- EIGHTEEN of the top 25 North American banks
- FIVE of the top 10 global pharmaceuticals
- THREE of the top 10 retailers/CPGs
- THREE of the top 5 largest oil and gas entities
- THREE of 5 top nuclear power companies
- Top THREE global automakers

We've evolved well beyond control-focused, gap-filling IT security; we advise on topics such as:

- How to organize and integrate OT and IT security functions
- What proper organizational design and service delivery looks like
- How to build the executive-level business case for security transformation
- How to systematically understand and manage cyber risk
- How to measure success

In addition to understanding capability coverage, we focus hard on assessing effectiveness – validating how well-implemented a client's investments actually are. When we assess, we balance both objective (e.g., evidence-based technical testing) and subjective data to determine exactly where a program is, and as we design a program, we lead with risk reduction and change management as our guiding light. Whether we're conducting a broad program assessment, conducting a tactical security stack analysis, or crafting a macro path forward for the program, we provide clients the strategic and operational insights to ignite change in a hurry while engaging the broad ecosystem of stakeholders, both inside and outside the organization.

2) Transform & Build

Using our designs, we transform programs and build specific capabilities that bring tangible and technical change to a business. Our Cyber Fusion Center construct is the centerpiece for how we do this, providing a highly integrated and effective model to re-orient how security operations happens and install specific new capabilities that enable greater context, visibility, and risk reduction.

At the programmatic level, we ensure capabilities, projects, and people are strategically aligned to the security program's vision. We use expert change management skills and Agile techniques to efficiently work within and outside of the program, ensuring that progress is happening when, where, and how clients expect it to. By systematically orchestrating transformation at the top level, we help security programs produce massive results in shorter periods of time.

From a build perspective, we assemble intelligence-driven processes, well-tuned technology, and highly coordinated personnel in customized manners to ensure our clients gain the capability to detect and respond to the inevitable threat. These capabilities include:

- Developing robust security analytics platforms
- Tuning automation and orchestration solutions
- Methodically reducing the organization's attack surface
- Implementing and fusing continuous learning and improvement (e.g., red teaming, wargaming, and tabletop exercises)
- Establishing repeatable risk management and decision support systems

Through our transform and build capabilities, clients experience tangible and tactical uplift around priority security challenges. Our consultants and technical practitioners deliver high-assurance solutions for reducing the attack surface, leaving the business in a better place.

3) Operate & Deliver

In certain situations, clients need surge support to operate certain capabilities or they seek reliable delivery of high-end managed services to supplement their current program. At the core of these capabilities is our Managed Threat Services (MTS) unit, which offers market-leading, highly scalable capability for detecting and responding to cyber threats.

When we're operating specific capabilities for a client, we're there to inject valuable tradecraft and produce durable outputs that help a program be sustainable. To stay on top of the ever-changing cyber landscape, we provide clients with Cyber Threat Intelligence (CTI) capability that brings them tailored insights into likely adversarial activity, while providing valuable context and indicators of compromise. This enables our Threat Defense Operations (TDO) capability, which uses intelligence to tune detection logic and swiftly help security information and event management (SIEM) systems filter the signal from the noise, leading to the right triage, prioritization, and response efforts. Our proprietary analytics, tools, and processes bring robust capability quickly to a client environment, and cleanly integrate with our MTS capabilities.

In delivering MTS capabilities, Booz Allen can detect and respond to advanced attacks both inside and outside of corporate firewalls, while giving clients the advantage of a predictable and economical delivery model. Our seamless solutions offer enhanced cybersecurity without the burden of managing technology or hiring additional staff. Across a client's technology landscape, we partner with clients to effectively and continuously thwart even the most well-financed and determined adversaries, implementing transformative, adaptive approaches backed by hands-on experience.

4) Respond & Recover

Cyber incidents are complex to manage -- they manifest themselves in increasingly sophisticated ways, they can happen anywhere in the business, and organizations are usually responding to several at a time. The frequency and complexity of incidents requires a full lifecycle incident management capability that clearly defines and links incident-related efforts across the enterprise and facilitates smooth and expedient cross-business response coordination. Managing incidents is a full lifecycle discipline.

At Booz Allen, we believe that "preparedness" capability is just as important as "response and recovery" capability. Pulling from decades of deep cyber experience, we've developed a standard incident management blueprint, which can be customized to each client's environment to guide leaders through the process of building and implementing effective incident management.

We help our clients prepare for incidents through rigorous risk-based scenario analysis, plan development, exercises (e.g., wargames), and more. We help them stress test their environments to determine where the gaps are and drive towards remediation (process, technology, and people) that brings tangible security to life. Part of preparedness is knowing what to do when the incident hits. It's not enough to simply understand what happened or what data was compromised – organizations also need to know what needs to be communicated, and what doesn't, in order to handle the nuances of incident reporting, remediation, and follow-up.

When an incident strikes, we deploy some of the most capable personnel and expert tradecraft in the world. This includes privileged investigations, digital forensics, malware analysis, and insight into dark web brokering. We guide clients through the stressful process of incident response, giving them confidence that the situation is under control and that we'll guide them back towards a recovered state as soon as possible.

WHAT IT MEANS TO BE IN THE FIGHT: WHY CHOOSE BOOZ ALLEN

Our clients' cybersecurity challenges are numerous and daunting. We appreciate the difficulties they face, and pride ourselves on being a unique force in the market – an extremely valuable blend of deep technical expertise combined with a rich consulting heritage.

Successful cyber attacks devastate organizations: information can be stolen or tampered with, computers that run factories can be stopped or intentionally misconfigured, and electricity can be cut. Booz Allen understands that these are battles that must be fought continually against determined adversaries who continually evolve. That's why we focus deeply on risk management for our clients -- protecting them, their customers, and ultimately our "digital way of life." Having been on both sides of the fight, we approach threats with an attacker's mindset and we're relentlessly preparing for what's next. Booz Allen knows the business and technology sides of the cyber problem, we know the adversaries, and we're expert at becoming an integral part of our clients' security structure and business.

We've been in cyber since its inception and we can immediately improve security on day one. With Booz Allen, there's no learning curve, and there's no question about the depth of our experience and expertise in solving the commercial sector's most complex and sophisticated problems. In addition to providing immediate value, we offer access to the best talent in the industry, predictable economics, and when it's time to prove ROI and report on the program's effectiveness, Booz Allen delivers on the metrics that really matter: how long it takes the team to detect, respond, and remediate attacks and threats. In this way, we're redefining what effective cyber means for enterprises across the globe. Clients gain:

- **Visibility:** Gaining operational insight into what's going on across the entire environment.
- **Risk Insight and Strategy:** Infusing business context to determine what truly matters, establishing a holistic risk management approach, and maximizing security investments over the long term.
- **Increased Operational Effectiveness:** Orchestrating and coordinating security functions and information flow from threat intelligence all the way through detection tuning and recovery.
- **Improved Security Readiness:** Preventing or neutralizing attacks through the delivery of strategic and tactical cyber threat intelligence with relevant indicators of compromise. Clients benefit from proactive defenses, threat anticipation, rapid detection, and faster response and mitigation.
- **Improved Intelligence Lifecycle:** Including data collection, analysis, recommendations, reporting, and product dissemination.
- **Access to a Dedicated Team of Experts:** Producing fast, actionable intelligence to anticipate risks, mitigate real threats, and inform security decisions.

About Booz Allen

For more than 100 years, business, government, and military leaders have turned to Booz Allen Hamilton to solve their most complex problems. They trust us to bring together the right minds: those who devote themselves to the challenge at hand, who speak with relentless candor, and who act with courage and character. They expect original solutions where there are no roadmaps. They rely on us because they know that – together -- we will find the answers and change the world.

We solve the most difficult management and technology problems through a combination of consulting, analytics, digital solutions, engineering, and cyber expertise. With global headquarters in McLean, Virginia, our firm employs approximately 24,600 people globally, and had revenue of \$6.17 billion for the 12 months ended March 31, 2018. To learn more, visit www.boozallen.com. (NYSE: BAH)