Workforce Now:
Responding to the Digital Readiness Crisis in Today's Military

Executive Summary

The Department of Defense (DoD) is facing a digital readiness crisis. Even with the promise of significant personnel reforms on the horizon, DoD leaders must take immediate actions *now* to augment and leverage its existing digital talent in the Services or risk falling behind near peer competitors in critical technical competitions.

Background

Secretary Esper, said last June, "we must make the best use of all of our talent if we are to stay ahead of our very capable adversaries…The current system – as effective as it has been in the past – simply will not allow us to optimize the potential of our workforce going forward." [1] This is a sentiment that has been echoed by many DoD leaders who have lamented the difficulty of recruiting sufficient technical capability and capacity.[2] Preserving and maintaining military advantage depends on DoD's ability to adopt and leverage technology faster than our adversaries.[3] There is today a robust consensus[4] that cultivating a workforce postured for rapid technology adoption is critical to this effort.[5] However, there is *not* a consensus on how to achieve that objective, especially when this longer-term goal must share the stage with the imperative to restore current forces to a high degree of readiness after decades of war.

In 2017, the Defense Innovation Board (DIB) recommended renewed focus on career pipelines to recruit, train, develop, and retain individuals with the expertise to enable DoD digital transformation. Two years later, apart from the growing cyber workforce, DoD has taken only modest steps to create formal pathways for service members with these critical skills. The Department needs to rapidly accelerate

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[1] Secretary Esper was Secretary of the Army at the time. https://www.nationaldefensemagazine.org/articles/2019/6/13/just-in-army-embarking-on-personnel-system-renaissance

[2] Lt Gen Shanahan, Director of the Joint Artificial Intelligence Center (JAIC), The challenge of recruiting tech talent is "common across the entire government. I'd say it's common across society. How do I incentivize somebody to come in at 50 to 75 percent salary cut and work in a government where our rules and regulations are a little different than they are in commercial industry?", https://www.defense.gov/Newsroom/Transcripts/Transcript/Article/1949362/lt-gen-jack-shanahan-media-briefing-on-ai-related-initiatives-within-the-depart/

[3] The National Defense Strategy Summary, p. 10, "Success no longer goes to the country that develops a new technology first, but rather to the one that better integrates it and adapts its way of fighting." https://dod.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf

[4] The National Security Strategy, p. 20, https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf; The National Defense Strategy Summary, p. 7, https://dod.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf; The DoD AI Strategy, p. 14, https://media.defense.gov/2019/Feb/12/2002088963/-1/-1/1/SUMMARY-OF-DOD-AI-STRATEGY.PDF; The DoD Digital Modernization Strategy, p. 33, https://media.defense.gov/2019/Jul/12/2002156622/-1/-1/1/DOD-DIGITAL-MODERNIZATION-STRATEGY-2019.PDF; Center for Security and Emerging Technology report on "Strengthening the U.S. AI Workforce" https://cset.georgetown.edu/wp-content/uploads/CSET-Strengthening-the-U.S.-AI-Workforce.pdf; The Center for New American Security report on "Managing the National Security Workforce Crisis" https://www.cnas.org/publications/commentary/managing-the-national-security-workforce-crisis

[5] Then-Secretary of the Army Mark Esper said in June 2019 "we must make the best use of all of our talent if we are to stay ahead of our very capable adversaries." https://www.nationaldefensemagazine.org/articles/2019/6/13/just-in-army-embarking-on-personnel-system-renaissance

building the capability and capacity of its digital and STEM workforce. This means more technical skills such as modern software development, cyberphysical systems, data science, and artificial intelligence/machine learning (AI/ML). (Often these capabilities are conflated with cyber security, which is an important, related, but distinct field). Importantly, this also means more rapid capability development and adoption, and applied innovation methodologies such as design thinking and Lean Startup, which emphasize critical thinking, experimentation, and iteration.

The slow pace of change is not for lack of trying; rather, personnel reform is both a complex and complicated riddle to unravel, involving layers of law, regulation, policy, and – perhaps most of all – culture. Each Service has recently launched admirable efforts to address underlying challenges that affect their personnel systems, many of them including specific measures to tackle the particularly urgent challenges of recruiting, training, and fielding a digitally capable force.[6] The DIB unequivocally and enthusiastically praises these efforts and they should continue apace with support from Congress and the Administration; however, while these sweeping reforms work their way through an appropriately deliberate process, the Department's digital readiness crisis is getting worse. More worrisome than the ongoing deterioration of legacy software and the accumulation of technical debt, is what appears to be an exodus of young digital talent from the ranks[7] who are choosing not to wait to accrue the benefits of personnel reforms that may take years to enact.

This recommendation does not propose the sweeping reforms that we suggested in 2017; rather, it focuses on immediate, short-term actions to better use and retain active duty service members with digital innovation skills. We are proposing a highly limited, temporary, and specific use of waivers for a small percentage of the workforce to ensure two things: first, key innovation and technology initiatives are fully staffed, and second, that the most service members with the greatest potential are retained.

Underusing Talent is a Problem

With few recent exceptions, today's military personnel policies and systems were designed for the industrial era.[8] Service members within specialty areas are generally treated as interchangeable; open billets are filled with available people without full regard for unique abilities.[9]

Many digital innovation skillsets do not fit within existing career tracks[10], therefore service members with these skills are often left unidentified and ignored in DoD's talent management systems. Despite the lack

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[6] The DIB particularly wants to highlight the promise of Service-level personnel reform initiatives: the Army's Task Force on Talent Management, the Navy's Sailor 2025 strategic planning document, the Marine Corps' 2019 Commandant's Planning Guidance, and the Air Force's computer language initiative and A2 14N Talent Management Framework.

[7] Reliable data to support this claim does not appear to be collected by the Services today or was not offered to us; rather, we base this claim on three years of observation and over 50 stakeholder interviews, which – while anecdotal – is quite convincing.

[8] USMC 2019 Commandant's Planning Guidance, "Our manpower system was designed in the industrial era to produce mass, not quality." https://www.hqmc.marines.mil/Portals/142/Docs/%2038th%20Commandant%27s%20Planning%20Guidance_2019.pdf?ver=2019-07-16-200152-700

[9] Then-Secretary of the Army Mark Esper said in June 2019, "oftentimes, only rank and military specialty are all that are used in most cases to determine a person's next assignment. Such rudimentary management of our people is no longer sufficient for today's generation." https://www.nationaldefensemagazine.org/articles/2019/6/13/just-in-army-embarking-on-personnel-system-renaissance

[10] Some established digital career tracks and opportunities in each Service exist, but these are mostly cyber-related. For example, the Navy's Information Warfare community brings together several important specialties such as

of formal digital talent pipelines and career paths in DoD, digital-savvy service members already exist in the force, possibly in large numbers. The generation joining the military today are digital natives. More than any time in history, they have the ability to develop their own expertise outside of formal educational institutions.

Digital technologies and capabilities, including the integration of software with legacy systems, will transform every facet of DoD operations, from human resource systems to weapons systems. Unfortunately, DoD is not the world leader in developing, adopting, and applying digital capabilities; and our current system is not structured to keep pace with evolving digital requirements.

DoD faces a digital readiness crisis. With each passing day, the gap with the private sector grows bigger, and we are seeing near-peer competitors and would-be adversaries display accelerating progress. In contrast, the Department has yet to determine the right metrics to begin assessing digital readiness or understand the gaps in its digital innovation workforce; there is an institutional blindness to our digital deficits.

Why DoD Has A Problem

Many service members with critical digital innovation abilities who have to fight the system to serve in positions that fully leverage their skills and see no clear path for advancement outside of the established career progressions leave the service and the Department suffers.

The DIB interviewed over fifty current and former service members who either have digital innovation expertise or are involved in talent management initiatives, including career managers. In our interviews, we identified four factors that make it incredibly difficult or impossible for the Services to align digital talent with high priority mission needs.

(1) Defined Career Paths
Service members (enlisted or officer) must follow a defined career path by moving through a series of key assignments in order to advance. Any time service members take an assignment off their defined career path, they put their careers at risk. Additionally, service members are often told they cannot risk their career for an outside assignment even if they fully understand the consequences.

DIB opinion: *Defined career paths are very important as they prepare service members for higher levels of responsibility. At the same time, the military recognizes that not every service member wants to stay on a career track to become a General Officer, Flag Officer, or Command Senior Enlisted Leader. Alternate pathways that allow for specialization should be expanded overall, but especially for digitally-savvy and innovation-minded service members whose valuable skills do not currently fit within existing career paths.*

(2) Operational Experience Before Digital/Innovation Roles
Young service members often find they must first serve in one or more operational assignments before moving to any special billets so they know how things are done in the service before they can be effective in applying digital skills to DoD missions.

DIB opinion: *DoD will absolutely need people who move between operational and digital innovation roles. However, that should not preclude putting a small, select number of talented, creative service*

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signal intelligence and computer network operations. The pathways for digital innovators need to be deeper and broader.

members straight into digital innovation roles. Experience can be a double-edged sword. While operational experience is critical, it can also lead to bias and blinders.

In several of our interviews, the military paid for specialized graduate programs at prestigious universities only to repeatedly not put those service members in aligned assignments. Digital specialties evolve extremely quickly and practitioners need to keep up with the latest developments and continually put them into practice. If recent graduates in data science or AI/ML must serve three years in an unrelated role in their original career path, they will be out of touch with the latest developments. It is impossible to maximize for both cutting edge operational and digital experience at the same time.

(3) Rigid Billeting System

A billet is a specific position filled by one individual. Each billet is coded with specific requirements which only allows certain people to serve in that billet. For example, a specific billet on a Navy ship may only be open to surface warfare officers (SWO) at the O-1 or O-2 rank.

Two issues limit assignment flexibility, even when there is interest (from an individual) and support (from a receiving unit) for a specific assignment. The first issue is that billets are limited in number by law. Digital and innovation offices often have to beg or borrow billets just to get sufficient levels of talent to function. Creating and filling a new billet can take over a year; the request has to work its way through the bureaucracy, be approved, prioritized against other assignments, and finally filled when an open cohort of moving personnel becomes available.

The second issue is billet coding. The few billets dedicated to digital and innovation offices are often coded in a way that greatly limits who they can recruit. This is usually due to the ad-hoc way they obtained the billets in the first place. If a billet is coded for a Reserve officer, then an active duty enlisted service member cannot fill that role, regardless of skills and abilities. Ultimately, this means the best personnel for a given billet are often not even considered.

DIB opinion: *Billet availability or coding should not stand in the way of leveraging the most appropriate people for some of DoD's hardest challenges. Priority digital and innovation offices need more billet flexibility to recruit and leverage real difference makers.*

(4) Readiness

Rebuilding military readiness is a top priority of the 2018 National Defense Strategy (NDS). DoD doctrine defines readiness as "the ability of military forces to fight and meet the demands of assigned missions." The Department is putting tremendous effort and resources towards improving readiness metrics, such as the number of service members deemed deployable and the number of aircraft fully operational.

Assignments are prioritized to meet readiness needs. Assignments to digital and innovation offices are perceived as coming "at the expense of mission."

DIB opinion: *The National Defense Strategy also recognizes that rapid technological advancements are transforming the security environment. The objectives laid out in the National Defense Strategy are unattainable without DoD rapidly adopting and delivering digital capabilities across the Joint Force. The tension between resourcing today's readiness vs. tomorrow's capabilities is well understood in the context of acquisition and budgeting, but thus far it is not as appreciated for personnel.*

Small numbers of digital innovators can have an outsized impact on missions and future capabilities. Better leveraging this talent will not negatively impact readiness. The Board believes developing and deploying digital capabilities deserve much higher priority; matching existing talent to existing needs is

the first step to addressing the digital readiness crisis. Explicit, written guidance must come from the top because operational leaders are incentivized to prioritize short term over long term.

DoD Needs Immediate Fixes

Services already have existing frameworks to support technical expertise. Career fields (such as the Navy's Engineering Duty Officer program), alternate pathways (such as the Army's functional areas or warrant officers), and additional skill identifiers (such as foreign language fluency) are all currently used to develop specialization.

DoD needs to plan and implement permanent pathways for the digital innovation skillsets that are not currently supported and can focus its effort around proven frameworks. This will take time, however; time that the Department cannot afford to waste.

DoD has many digital technology and innovation accelerators (such as the Joint Artificial Intelligence Center, Defense Innovation Unit, AFWERX, and NavalX) attempting to speed up the adoption of new technology and ideas[11], but bringing in or keeping qualified personnel requires heroics and herculean efforts each time. The fastest, highest impact will come from making it easier for the most qualified individuals to work in the offices that can best use their skills.

RECOMMENDATION #1: Identify and Prioritize Digital Innovation Offices

The Deputy Secretary of Defense should designate priority digital innovation offices within OSD (such as the Joint AI Center and the Defense Innovation Unit) and the Secretaries of the Military Departments should designate Service-specific priority digital innovation offices (such as AFWERX or NavalX).

●   Secretary or Service Secretary-designated digital innovation offices will reclassify all their billets with an open coding to allow service members of any rank (including enlisted) or specialty to fill the billet. This will give direct supervisors the flexibility to bring in the right people for each position.

●   Service Chiefs will issue guidance to career managers that all voluntary by-name requests that fit within existing billet numbers will be approved by default, barring extreme circumstances. Objections or delays will immediately be reported to the Service Chief for decision with justification for the holdup.

●   Offices with by-name requests that do not fit within existing billet numbers can submit a request directly to the Service Chief for expedited billet creation or transfer.

RECOMMENDATION #2: Leverage and Retain

Each Service should create a Digital Innovation Talent Management (DITM) program. The program should be overseen by Service Personnel Chiefs and managed by their designated senior officials.

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[11] The DIB wants to highlight (as an example) a joint DDS/US Army program to incubate military technical talent within a modern development environment to rapidly create and deploy products in support of various frontline missions overseas. The first product was a counter-drone solution to neutralize enemy drones from targeting explosives at U.S. and allied forces in the Middle East. The first working prototype was built within nine weeks and later deployed to several units overseas after ongoing user testing in the field.

DoD must prioritize using and keeping its most talented digital innovators. Until the Services stand up permanent pathways to develop, use, and promote service members with digital innovation skills, they need an alternate, temporary pathway. The intent is for the DITM program to serve as a temporary holding place for high-value talent that would otherwise likely be underused or lost to the private sector.

All service members (officer and enlisted) who meet two criteria would be eligible for entry into the DITM program:

(1) Has digital innovation skills not aligned to any current career pathways. (An example would be an Army infantry E-5 who is a skilled software developer, since the Army does not currently have a career path for software developers.)

(2) Takes a digital innovation assignment off his/her traditional career path. (An example would be an Air Force aircraft maintenance O-2 who serves a tour with the Air Force's Kessel Run office.)

Within this group, the managing senior official for each Service would identify high performers with the greatest potential to continue making positive mission impact and assign them into the program. Assignments would be centrally managed, placing individuals on high priority projects aligned with their skill sets.

After each assignment, the managing senior official determines whether or not to keep the service members in the program. The evaluation should look at past performance and whether or not there are additional assignments that could leverage the individual's skills and experience. Service members who are not retained will have the option to return to an appropriate year-group on their previous career tracks or be transitioned out of the military.

Service members who remain in the program will continue to receive appropriate assignments. These individuals will be managed under a separate promotion policy; they should be considered for promotion or pay increase according to performance and level of responsibility.

In the future, when the personnel systems formally support digital innovation specialties, the service members in the DITM program would transfer over at the appropriate level. For example, an Army logistics O-3 is pulled into the DITM program for her machine learning skill set. She serves in three different assignments and promotes to O-4. At that time, the Army formalizes a career path for machine learning officers, and the officer moves to that new career path as an O-4.

RECOMMENDATION #3: Accelerate Formal Pathways

The Under Secretary of Defense for Personnel & Readiness should convene the Military Occupational Classification Joint Service Working Group (MOCJSWG), and take up for consideration the full range of specialties needed to achieve digital readiness.

Recommendations 1 and 2 are temporary fixes. They are immediate actions that should be taken to better use and retain priority skills in the service. However, DoD cannot afford to slow consideration of formal pathways to develop, use, and retain digital/innovation talent.

DoD will need to recruit, hire, train, and develop people with a range of specialties (military and civilian) to effectively adopt and apply digital capabilities across the force. OSD and the Services are already considering important changes to their workforces and the DIB celebrates their progress. More needs to be done and it needs to move faster.

The MOCJSWG process will drive necessary conversations about skill sets and tradeoffs, and help set standards across the force. The Department should set an aggressive timeline for implementing dedicated career pathways for digital/innovation specialties. As the cyber effort has demonstrated, fully building out a new career track takes time. DoD has to accelerate its efforts with other digital/innovation specialties.

Digital Workforce Now:
Personal Stories

In preparation for this report, DIB interviewed over fifty current and former service members. The interviews covered the Army, Navy, Marines, and Air Force (both enlisted personnel and officers). The interviews focused on the following groups:

- Active duty service members with technical degrees and/or highly specialized skills in digital technologies and innovation
- Former service members with these skills that left the service
- Offices/units and leaders seeking digital talent
- Offices/units and leaders actively involved in talent management initiatives

The same story was repeated over and over again: passionate and talented service members who want to make things better have to fight established processes and culture. Every service member shared frustrating experiences with one or more of the four factors detailed in the recommendation that make it incredibly difficult or impossible for the Services to align talent with high priority mission needs:

- Defined career paths that must be followed
- A perceived need for operational tours before digital innovation assignments
- A rigid billeting system
- Assignments to digital and innovation offices being perceived as coming "at the expense of mission and readiness"

Although the system prioritizes career survivability, the junior service members we spoke with prioritize personal impact to the mission. An Army Captain that is leaving the service said: "I would have stayed a Captain forever to do good work." In another example, a Navy Commander turned down his next assignment that would keep him on a promotable career path in order to stay and finish his project to develop an AI-supported platform to improve flight readiness. In our discussion with him, this Commander said: "There is no path for me to promote now… If, at the end of the tour, I have to hang up my hat, I'll be proud of the work we've done. For me, it's not about the money. It's about the quality of life and the impact you can have."

This selection of personal stories brings these issues to life.

This Navy officer gained valuable experience in Artificial Intelligence apart from his career track and has been unable to apply his high-demand skills.

An officer graduated from the Naval Academy and was selected to directly attend a top civilian university. The officer was allowed to choose any program and he focused his M.A. research on the AI competition between the United States and China, while at the same time working at the Defense Innovation Unit (DIU), DoD's commercial technology acquisition arm, on related issues.

After grad school, the officer continued in his Surface Warfare Officer (SWO) career track. Wanting to apply his AI research, the officer sought to serve at the Joint AI Center (JAIC), headed by a three-star general. The general by-name requested the young officer, but the request was denied because the assignment deviated from the established career track and the officer was needed to fill a readiness billet.

Frustrated with the system and lack of opportunity to leverage his AI skill set for the Navy, but still wanting to serve in uniform, the young officer decided to transfer to another Service. At this point, his transfer request, despite approval from the highest levels, is moving slowly through bureaucratic processes. The officer is currently serving on a ship in a position that does not leverage his high-demand skills, while his life is in limbo.

This Airman found limited opportunities to apply his self-taught skills and decided to leave active duty over accepting a promotion.

An Air Force Imagery Analyst Staff Sergeant (E-5) found his passion in software programming. On his own time, he taught himself how to code with free and open-source resources online. He often jokes that he is a "student at YouTube university with a degree in using Google effectively."

As he moved through assignments, the Airman saw endless ways to improve unit operations and processes with software applications. However, he found limited support/opportunity to code since his primary job responsibilities precluded dedicating the considerable time necessary to build applications, despite their impact potential.

As the Airman became more familiar with open-source communities online, he recognized the huge gaps between coding in and out of the military. When working with Air Force systems and data, he faced overly restrictive security barriers and a near total lack of access to the latest tools and collaboration platforms.

With six years of experience, the Airman had to decide between accepting a promotion to Technical Sergeant (E-6) or leaving active duty. He wanted to code full time and a promotion would only take him further from operations into management. The Airman's active duty future was incompatible with his desire to apply his software skills. He wanted to continue to serve his country, so he transitioned to the Reserves in an intelligence position. He is now a civilian software engineer and gets to code full time alongside a team of some of the smartest people he's ever met.

This young Army officer has moved duty locations six times in just three years due to a lack of deliberate talent management for technically inclined service members.

Since graduating from a service academy, this Army officer was selected for multiple nationally competitive STEM fellowships. While in these fellowships, she was called back into her Army training pipeline from a previously arranged course of study with very short notice. However, due to changing Army needs, she was then taken out of the training pipeline before completion to apply her skills to a priority effort.

The unorthodox ways that this officer has been moved quickly from place to place, coupled with discrepancies between her billet descriptions and actual duties, have caused repeated problems with her performance evaluations, professional military education, and pay. The assignment history in her military service record does not accurately depict her career.

Some members of her chain of command have discouraged her from pursuing further technical assignments because such positions do not demonstrate traditional promotion potential. She was also told that lack of operational experience will prevent her from making mission-focused technical contributions and damage her credibility.

Despite her frustration with navigating institutional hurdles when trying to find opportunities to leverage her skills and abilities, she has continued to persevere and now finds herself on a broadening tour which she believes will enable her to develop and make a positive impact.

This Army officer has served multiple assignments completely unrelated to his technical education paid for by the Army. He wants to continue to serve, but his frustration is making him consider other options.

An Army logistics officer attended a top civilian university after he completed his company command assignment. As part of the Advanced Civil Schooling (ACS) program, he earned his MBA in a data-centric analytics program. ACS requires officers serve in a follow-on "utilization tour" in a role that leverages the officer's new academic knowledge.

Instead of putting this officer in data-centric role where he could serve as a force multiplier, the Army sent him to a major training center. There, he was assigned to serve as a Medical Service Corps officer, a position completely unrelated to his training as a logistics officer or his MBA.

The officer served for one year in that position, but saw more opportunity to add value as an Operations Research/Systems Analysis (ORSA) officer. ORSAs use quantitative and qualitative analysis to improve operations and decision making. The Army sent the officer to an intensive four-month training program to qualify him in the ORSA functional area.

Following his ORSA training, the officer was assigned to a Personnel Development Office (PDO) position where he does administrative general staff work, such as making PowerPoint presentations and building briefing binders. Here he fills a needed billet, but does not utilize any of his skills.

The Army paid for phenomenal, expensive training that is highly valued in the private sector (and desperately needed in the Army), but is completely wasting the officer's abilities.

This Air Force officer twice had to seek high-level exceptions for assignments off his golden career path and is now dealing with billeting challenges.

When the Secretary of the Air Force decided to stand up an innovation office to solve problems and change culture, she needed the right leader. A senior civilian happened to work with a talented officer in a

previous capacity and he recommended a then-lieutenant colonel for the job. The officer was a pilot and such an assignment was outside of his golden career path. Despite the high profile and high priority from the Air Force's most senior leaders, the Air Force Vice Chief of Staff had to personally step in to make the assignment happen.

The officer filled a brand new billet. When it was created, the billet was coded to what the incoming officer happened to be at the time, which was an O-5 pilot. When the officer was soon promoted to O-6, his career manager told him he had to leave his position because the Air Force deemed his command was too small for an O-6 and the billet was coded for an O-5. The officer had to fight to remain in place, in accordance with senior leader wishes, to work on the high priority initiative.

For his next assignment, the officer yet again struggled with the personnel system when he was selected to start up another high priority innovation office. As he currently transitions to the next position, he cannot leave his small team without a leader. His old position is incredibly hard to fill; it needs just the right type of leader to succeed, but candidates are unnecessarily limited to O-5 pilots only because that is what he had been when the billet was created.

This Army officer spent two years trying to align innovation roles with an Army career, and despite senior leader support, failed to find a sustainable path.

An Army infantry officer began exploring innovation methodologies outside of his core responsibilities. He attended Stanford's Graduate School of Business' Ignite program, which is a one-month course with a diverse group of leaders exploring innovation in the heart of Silicon Valley. In order to fully leverage his experience, he wanted to apply his knowledge and network within a DoD innovation office.

His desire for an innovation assignment did not fit within the standard career track for an infantry officer. As a recently promoted O-3, his branch manager told him that he must first attend the Maneuver Captains' Career Course (MCCC) at Fort Benning; then he would be able to work in an innovation office.

While at MCCC, the young officer instead received orders to the United Nations Command along the DMZ in South Korea. Since the Chief of Staff's guidance at the time placed Korea as a readiness 'must-fill' assignment, these orders became intractable.

While still an MCCC student, the officer launched a tactical innovation cell with 3/75th Ranger Regiment. The innovation cell gained momentum and leaders (including several SESs, key leaders and general officers from Infantry Branch, the 75th Innovation Command, 75th RR, and other key commands) contacted Human Resources Command (HRC) to move the officer off Korea orders to focus on innovation. All were denied.

After weeks of building capabilities and battling bureaucracy, the officer was eventually told that Korea was inescapable and he went to his assignment on the DMZ. The officer returned for six weeks to NYC as the first Army officer selected as a National Security Innovation Network (NSIN) Startup Innovation Fellow. He conducted capability development research that eventually became a machine learning pilot and cultural intelligence pilot; both resulted in publication. During this period he was contacted by the

Operational Research/Systems Analysis functional area team about joining them at the Army AI-Task Force. On learning about the three-year service obligation that this would incur, and having no faith in Human Resources Command (HRC) managing his career, the officer declined their offer.

Frustrated with a rigid system and broken promises, the officer resigned his commission. While transitioning out of the service, he wrote several articles on military innovation, connected leaders and teams across the defense innovation ecosystem, fielded capabilities, created a tactical innovation methodology, and mentored leaders across the Department of
Defense. The Army lost a passionate young officer who was able to add tremendous value despite working against the system, but could not find a sustainable path forward.

This young Air Force officer is a success story; his career thus far has consisted of bringing advanced technologies to the forefront, made possible by senior leader intervention.

As an intelligence officer, he began his career at the National Air and Space Intelligence Center (NASIC) and was responsible for delivering the Air Force's first hyperspectral sensor. He then became the lead for target development in the counter-ISIS campaign. His work on data modernization, commercial software applications, and cloud-based technologies resulted in him receiving the prestigious Federal Government's Arthur S. Flemming Award.

With due credit to Air Force leadership, he was brought to the Pentagon by a 3-star general; one who has continually cleared the path. Despite his young age, this officer has continually been enabled to utilize his knowledge and skills at the highest levels. He is an excellent example of how each Service can effectively identify and empower talent regardless of rank or age, even within the current system.

This Navy officer says he's made the most impact of his career in just the last two years, but the assignments that enabled his work are now forcing him out of the Navy.

A Navy officer developed a background in hardware, software, and flight law algorithm design from his undergraduate (United States Naval Academy) and postgraduate study (Naval Postgraduate School).

While at grad school, this officer interned at the Defense Innovation Unit (DIU) to provide his subject matter expertise on all things unmanned aerial systems (UAS) and counter unmanned aerial systems (cUAS). After developing a very successful prototype and being recognized for his deep subject matter expertise, he was able to secure a three-year assignment to DIU.

Two weeks after arriving at DIU, the officer's work on cyber hardening drones was briefed to the Secretary of Defense. The Secretary directed DIU to field this capability across the Department and the software is now the only DoD cyber hardening tool for commercial off-the-shelf (COTS) drones. This Lieutenant (O-3), together with an Ensign (O-1), wrote 100% of the software.

Despite his tremendous contributions to critical DoD missions, this officer deviated from his assigned career track as a Naval aviator and was not selected for promotion to O-4. He is therefore being forced to leave the Navy next year.

This Marine Corps officer repeatedly tried to further develop his technical skills and leverage them in appropriate assignments, but ultimately decided to leave the service.

This Marine Corps officer, with a background in tactical logistics and a BS in English Literature from Naval Academy, was assigned to a data systems management track at the Naval Postgraduate School (NPS).

The officer excelled with data and information science curriculum, and was urged by professors to transition his research into a PhD dissertation. His request was denied due to the needs of the Marine Corps for data system management. Instead, he became a researcher on an energy command and control experiment and graduated with an outstanding thesis (top 10%).

Assigned to service headquarters in network plans and policy, he spent two years as an enterprise IT manager never having access to tools or modern techniques for data analysis and made due with MS Excel and Access. The officer applied to a doctorate program; three PhD tenured professors from across Systems Engineering, Business, and Information Science schools at NPS endorsed his application with letters of recommendation. The first general officer in his chain of command refused to endorse his application. The young officer was ultimately not recommended for selection despite being deemed eminently qualified because his career timing required his return to the logistics occupation field. This determination was despite the young officer's plea and offer to accept remaining at terminal rank if allowed to pursue original research into command and control.

After an additional assignment the officer resigned from the Marine Corps because he saw no options to grow his technical skills and maintain his career. This individual now aspires to be a full-stack developer and grow up into product management or chief technical roles.