



NPS IN THE NEWS

Weekly Media Report – Feb. 9-15, 2021

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RESEARCH:

1. [NASA's Lunar Reconnaissance Orbiter: Teaching an Old Spacecraft New Tricks to Continue Exploring the Moon](#)

(SciTech Daily 14 Feb 21) ... Bill Steigerwald

NASA's Lunar Reconnaissance Orbiter (LRO) spacecraft has far exceeded its planned mission duration, revealing that the Moon holds surprises: ice deposits that could be used to support future lunar exploration, the coldest places in the solar system in permanently shadowed regions at the lunar poles, and that it is an active world that is shrinking, generating moonquakes and changing in front of our eyes. LRO has mapped the surface in exquisite detail, returning millions of images of a starkly beautiful lunar landscape and paving the way for future human missions under NASA's Artemis program...

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2. [Xerox and Naval Postgraduate School Collaborate on 3-D Printing Research](#)

(Seapower Magazine 11 Feb 21)

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EDUCATION:

5. [New NPS Graduate Certificate Program Provides Context, History to Great Power Competition](#)

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The Naval Postgraduate School's (NPS) Systems Engineering Management (SEM) programs held their latest Outstanding Capstone Project Award competition, with four teams of students developing challenging solutions to real-world problems in their efforts to take top honors.

FACULTY:

7. [The Gulf War's Afterlife: Dilemmas, Missed Opportunities and the Post-Cold War Order Underdone](#)

(Texas National Security Review 10 Feb 21) ... **Samuel Helfont, assistant professor of strategy and policy in the Naval War College's Program at the Naval Postgraduate School in Monterey, California**

The Gulf War is often remembered as a "good war," a high-tech conflict that quickly and cleanly achieved its objectives. Yet, new archival evidence sheds light on the extended fallout from the war and challenges this neat narrative. The Gulf War left policymakers with a dilemma that plagued successive U.S. administrations. The war helped create an acute humanitarian crisis in Iraq, and the United States struggled to find a way to contain a still recalcitrant Saddam Hussein while alleviating the suffering of innocent Iraqis. The failure of American leaders to resolve this dilemma, despite several chances to do so, allowed Saddam's regime to drive a wedge into the heart of the American-led, post-Cold War order. While in the short term the war seemed like a triumph, over the years its afterlife caused irreparable harm to American interests... **Samuel Helfont is an assistant professor of strategy and policy in the Naval War College's Program at the Naval Postgraduate School in Monterey, California.** He is the author of *Compulsion in Religion: Saddam Hussein, Islam, and the Roots of Insurgency in Iraq* (Oxford University Press, 2018). His current book project, *Iraq Against the World*, examines Iraq's international strategies from 1990 to 2003 and the impact they had on the post-Cold War order. He holds a Ph.D. in Near Eastern Studies from Princeton University and is an Iraq War veteran.

8. [How Business Leaders Can Prepare for the Next Health Crisis](#)

(Harvard Business Review 15 Feb 21) ... Robert Handfield, Peter Guinto and **USAF Maj. Joseph Finkenstadt, NPS Graduate School of Defense Management Assistant Professor**

The shortages of personal protective equipment (PPE) and other critical health and safety material and equipment that have persisted throughout the Covid-19 pandemic have made one thing clear: Large organizations of all kinds need to be much better prepared to operate when future devastating emergencies strike. The ultimate remedy is a radically cooperative, proactive approach to securing these supplies... Daniel Joseph Finkenstadt is a major in the U.S. Air Force and an assistant professor in the Graduate School of Defense Management at the **Naval Postgraduate School** in Monterey, California.

ALUMNI:

9. [Meet the RCCTO Engineers delivering rapid prototypes to drive Army modernization](#)

(Redstone Rocket 10 Feb 21) ... Claire Heining and Nancy Jones-Bonbrest

The Army Rapid Capabilities and Critical Technologies Office is delivering numerous Army "firsts" – including the prototype long range hypersonic weapon, combat-capable lasers, and a ground-launched mid-range fires capability using Navy missiles...

Farmer started her civilian career one month after the tragedies of 9/11/2001, supporting the Army's DEVCOM - Aviation and Missile Center in the Reliability Engineering field. Here, she led Army and foreign military sales customer reliability programs and traveled the world to support various aviation and missile systems. After graduating from the **Naval Postgraduate School**, she took the advice of senior mentors and looked for opportunities in hypersonics, which led her to the RCCTO. "I've had a series of tremendous mentors throughout my career who challenged me to be comfortable with the uncomfortable," Farmer said.

10. Navy Commander Victor Glover Jr. Makes "Small Step for Man, One Giant Leap for Mankind"

(Orlando Times 12 Feb 21) ... Jalessa Neal

"That's one small step for man, one giant leap for mankind." These iconic words mark a moment in American history amid the space race. Now, history is being made in space once again. Commander Victor Glover Jr. makes history as the 1st African American astronaut to have a prolonged stay on the International Space Station...

Glover's biography on NASA's website explains that he was born in Pomona, California. His mother lives in southern California, and his father and stepmother live in Prosper, Texas. He graduated from Ontario High School in 1994 before earning his Bachelor of Science in General Engineering at California Polytechnic State University. He would go on to get his Master of Science in Flight Test Engineering (USAF TPS) from Air University, Edwards Air Force Base in 2007; Master of Science in Systems Engineering (PD-21) from **Naval Postgraduate School** in 2009; and his Master of Military Operational Art and Science from Air University, Montgomery, Alabama in 2010.

11. Beacon Global Strategies Expands by Adding Four National Security Professionals to Growing Team

(PR Newswire 11 Feb 21)

Today Beacon Global Strategies (BGS), a leading strategic advisory firm focusing on global public policy, government procurement, and geopolitical risk analysis, announced four new members to its growing team. Mr. Barry King, The Honorable Kari Bingen, Lieutenant General VeraLinn "Dash" Jamieson (Ret.) and Vice Admiral T.J. White (Ret.) will bring further depth and breadth to Beacon's market leading practices helping companies navigate national security decisionmaking and emerging trends for disruptive technologies... Vice Admiral T.J. White (Ret.) joins the BGS Advisory Board. T.J. served a distinguished 33-year career in the United States Navy. As a flag officer, he has served as deputy director, Tailored Access Operations, NSA and as director for intelligence, U.S. Pacific Command. He previously served as Commander, Cyber National Mission Force at USCYBERCOM. His last tour was as Commander, U.S. Fleet Cyber Command/U.S. 10th Fleet/U.S. Navy Space Command. He is a 1987 graduate of the United States Naval Academy where he received a Bachelor of Science in Mechanical Engineering. He holds a Master of Science in Systems Technology (Command, Control and Communications) from the **Naval Postgraduate School** and a Master of Science in National Resource Strategy from the National Defense University-Industrial College of the Armed Forces in Washington, District of Columbia. He is a Massachusetts Institute of Technology Seminar XXI fellow.

UPCOMING NEWS & EVENTS:

February 16: [V-SGL with Dr. William D. Phillips: A New Measure: Quantum Reform of the Metric System](#)

February 23: [Seapower Conversation: Atomic Clock & Quantum Sensors](#)



The Naval Postgraduate School proudly presents

THE SECRETARY OF THE NAVY GUEST LECTURE SERIES

In Collaboration With The Office of Naval Research and Naval Education Enterprise

Dr. William D. Phillips

“A New Measure: Quantum Reform of the Metric System”



16 FEBRUARY 1500 (PST)

1997 Nobel Prize in Physics recipient Dr. William D. Phillips is a pioneer and leading researcher in laser cooling and trapping of atoms at the National Institute of Standards and Technology. His fundamental studies were used to develop applications for new kinds of physics measurements and processes such as high resolution spectroscopy, atomic clocks, atomic collisions, atom optics, bio-molecular interactions, and atomic-scale and nano-scale fabrication. Dr. Phillip's research was funded in part by the Office of Naval Research and has yielded many relevant Naval applications, in particular precision timekeeping, navigation and quantum information, including unbreakable encryption. His current research includes Laser Cooling and Trapping of Neutral Atoms, Atomic-Gas Bose-Einstein Condensates and Quantum Information with Single-Atom Qubits.

Read more about Dr. Phillips' Nobel Prize [here](#).

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www.nps.edu/web/video

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RESEARCH:

NASA's Lunar Reconnaissance Orbiter: Teaching an Old Spacecraft New Tricks to Continue Exploring the Moon

(SciTech Daily 14 Feb 21) ... Bill Steigerwald

NASA's Lunar Reconnaissance Orbiter (LRO) spacecraft has far exceeded its planned mission duration, revealing that the Moon holds surprises: ice deposits that could be used to support future lunar exploration, the coldest places in the solar system in permanently shadowed regions at the lunar poles, and that it is an active world that is shrinking, generating moonquakes and changing in front of our eyes. LRO has mapped the surface in exquisite detail, returning millions of images of a starkly beautiful lunar landscape and paving the way for future human missions under NASA's Artemis program.

In the Spring of 2018, LRO's Miniature Inertial Measurement Unit (MIMU), a critical sensor used to help point the spacecraft's instruments, was powered off to preserve its remaining life after exhibiting signs of decline due to natural aging in the harsh environment of space. The MIMU is like a speedometer. It measures LRO's speed of rotation. Without it, LRO was forced to rely only on data from star trackers — video cameras with image processing software that infers orientation based on star maps — to point and reorient the spacecraft. “This limited the ability to reorient (slew) the spacecraft for science purposes,” said Julie Halverson, Lead Systems Engineer in Space Science Mission Operations at NASA's Goddard Space Flight Center in Greenbelt, Maryland.

“Reorienting the spacecraft to get side-view data is valuable for scientists as it allows us to measure how light reflects off the Moon differently, depending on the view of the instrument,” said Noah Petro, Project Scientist for LRO at NASA Goddard. “This is called the photometry of the surface. Additionally, the camera takes side-view images to build 3D images of the surface and to collect the perspective views of the Moon that help dis-entangle geologic relationships.” To get LRO slewing again, NASA engineers developed a new algorithm that can estimate LRO's speed of rotation by fusing star-tracker measurements together with other information available from LRO's flight computer.

For LRO's new speedometer to operate properly, the star trackers need to maintain an unobstructed view of the stars, which can be blocked by the Earth or Moon, or the glare of the Sun. Otherwise, it is impossible to determine the orientation or estimate the rotational speed of the spacecraft. Ensuring that the star trackers are always unobstructed during science maneuvers made many science observations that could be easily done with the MIMU impossible to perform without it. To reclaim these otherwise lost opportunities, Goddard, NASA's Engineering Safety Center (NESC) and the **Naval Postgraduate School** (NPS) in Monterey, California, teamed up once again in their long history of cooperative research to rapidly develop a collection of new, revolutionary methods to enable LRO to keep exploring the Moon to its fullest ability.

“The algorithm we developed for LRO is called Fast Maneuvering or ‘FastMan’ and it works in conjunction with LRO's star-tracker-based controller,” said Mark Karpenko, a Research Associate Professor at NPS and the FastMan Project Lead. “The maneuvers naturally steer around bright objects just like obstacle avoidance in a self-driving car.” A computer algorithm is a set of instructions to process data. Karpenko was able to construct FastMan by using software tools that are based on the same tools previously used by a NASA-NPS team to reorient the International Space Station by combining forces from the space environment together with its gyroscopes rather than burning fuel by firing its thrusters. This “Zero Propellant Maneuver” is similar to a tacking maneuver used in sailing.

“The Lunar Reconnaissance Orbiter undergoes frequent special slews as it orbits the Moon and our ability to schedule these slews are constrained by the time it takes to perform them,” said John Keller, Deputy Project Scientist for LRO at NASA Goddard. With FastMan, LRO was able to perform nearly 200 additional slews that could not have been performed otherwise.

“Actually, most of the performance improvements we achieved so far were by using the results of FastMan to create what we call a ‘taxicab’ maneuver,” said Karpenko. Because the full FastMan required changes to LRO's flight software, Karpenko designed the taxicab maneuver to achieve most of the objectives of FastMan while requiring no flight software modifications. “Unfortunately, until we could

update the flight software, I had to be in the loop,” said Karpenko. The full FastMan maneuver is fully autonomous.

The first FastMan slew was conducted on orbit in late July 2020 and allowed the LRO Camera, one of LRO’s seven scientific instruments, to obtain a side-view image of Triesnecker crater 25 percent faster than a taxicab slew would have allowed. With these new algorithms, LRO is again able to rapidly look to the side, and the spacecraft is in good health, with all instruments still collecting data. “LRO is now in year 11 of what was originally expected to be a two-year mission,” said Petro. “We regularly monitor all LRO systems for signs of degradation or change. Fuel may be our rate-limiting factor, current estimates place us at having at least five more years of fuel onboard, if not more.”

In 2010, NPS, NESC and Goddard partnered to implement the first minimum-time reorientation maneuvers ever performed on orbit. This innovative work was done as an end-of-life flight demonstration on the TRACE spacecraft. Today, the lunar science community is the beneficiary of this pioneering work. “The slewing algorithms developed by NPS have already allowed LRO to collect more science,” explained Neil Dennehy, NASA Technical Fellow for Guidance, Navigation and Control. “I’m expecting that in the future our industry partners will be able to leverage this technology as well.”

LRO is managed by NASA’s Goddard Space Flight Center in Greenbelt, Maryland, for the Science Mission Directorate at NASA Headquarters in Washington. Launched on June 18, 2009, LRO has collected a treasure trove of data with its seven powerful instruments, making an invaluable contribution to our knowledge about the Moon. NASA is leading a sustainable return to the Moon with commercial and international partners to expand human presence in space and bring back new knowledge and opportunities.

[NASA’s Lunar Reconnaissance Orbiter: Teaching an Old Spacecraft New Tricks to Continue Exploring the Moon \(scitechdaily.com\)](#)

[Return to Index](#)

Xerox and Naval Postgraduate School Collaborate on 3-D Printing Research

(Seapower Magazine 11 Feb 21)

Xerox and the Naval Postgraduate School (NPS) have formed a strategic collaboration focused on advancing additive manufacturing research, specifically 3-D printing, which has the potential to dramatically transform the way the military supplies its forward-deployed forces, Xerox and NPS said in a joint release.

As part of a Collaborative Research and Development Agreement (CRADA), NPS was the first to receive an installation of the Xerox ElemX Liquid Metal Printer on the university campus in December. The Xerox system will provide NPS faculty and students with hands-on exploration of new ways the technology can deliver on-demand 3-D printing of metal parts and equipment.

“The military supply chain is among the most complex in the world, and NPS understands first-hand the challenges manufacturers must address,” said Xerox Chief Technology Officer Naresh Shanker. “This collaboration will aid NPS in pushing adoption of 3-D printing throughout the U.S. Navy, and will provide Xerox valuable information to help deliver supply chain flexibility and resiliency to future customers.”

With access to the latest additive manufacturing equipment, NPS faculty and students will use the ElemX printer to conduct thesis research to develop new capabilities for the Navy and Marine Corps.

“As the Department of the Navy’s applied research university, NPS combines student operational experience with education and research to deliver innovative capabilities and develop innovative leaders with the knowhow to use them,” said NPS President Ann Rondeau, a retired vice admiral. “This collaborative research effort with Xerox and the use of their 3-D printing innovations is a great example of how NPS uniquely prepares our military students to examine novel approaches to create, make, prototype and manufacture capability wherever they are.”



“From the age of sail to the nuclear era, Sailors have been fixing things at sea so they can complete the mission,” Rondeau continued. “This partnership is about the strategic ability of the Navy to have Sailors on ships with the capability through creativity and technology to advance their operations at sea. Through collaboration, NPS and Xerox are helping build a Navy for the 21st Century.”

The Xerox ElemX printer uses cost-effective aluminum wire to fabricate end-use parts that can withstand the rigors of operational demands. This ability to produce reliable replacement parts on-demand reduces the dependency on complex global supply chains for deployed forces and also addresses the hidden costs of traditional manufacturing.

“The NPS Alumni Association and Foundation supported bringing the ElemX liquid metal printer to NPS because it will enable soldiers, sailors, airmen, and marines to solve their problems where they are, when problems occur,” noted retired U.S. Marine Corps Col. Todd Lyons, vice president of the NPS Alumni Association and Foundation. “By providing the right digital tools and the liquid metal printer, all of a sudden we’ve helped transform not just the supply chain, but how the Department of Defense (DoD) thinks operationally about supplying war.”

“This is one way to bend the cost curve so that the DoD is not spending a thousand dollars for every dollar that a peer competitor spends,” he added.

“Global supply chains leave industries like aerospace, automotive, heavy equipment, and oil and gas vulnerable to external risks,” said Tali Rosman, vice president and general manager, 3D Printing, Xerox. “Our goal is to integrate localized 3D printing into their operations, and the real-time feedback from NPS gives us actionable data to continuously improve the ElemX.”

[Xerox and Naval Postgraduate School Collaborate on 3-D Printing Research - Seapower \(seapowermagazine.org\)](http://seapowermagazine.org)

[Return to Index](#)

The US Navy’s postgraduate school is taking a stab at metal 3D printing

(Defense News 13 Feb 21) ... David B. Larter

The Naval Postgraduate School in Monterey, California, took delivery late last year of a new Xerox 3D metal printer that the school hopes will advance what’s possible to manufacture at sea, easing the burden on the Navy’s supply chain.

The school was the first to receive Xerox’s ElemX 3D printer, which came about as part of an acquisition of Vader Systems in 2019.

The military has been keenly interested in additive manufacturing (3D printing) as a means of reducing the cost of producing parts and giving operators in remote environments - such as a ship at sea - the ability to fix items on the fly rather than having to wait for a part to be delivered. This ability could be particularly important as logistics trains are expected to become target themselves in the event of a war with Russia or China.

The goal for the school is to lean on a fleet experience of officers to find creative uses for the capability, said Walter Smith, the research associate professor from the Department of Mechanical and Aerospace Engineering at NPS.

One of the promising uses would be parts for engines, Smith said.

“One of the great things that we can use this machine for is parts for turbo machines,” he said. “So that’s compressors and nozzles.

“We’re going to start out with stationary parts as part of a turbo machine and then hopefully develop enough trust and capability and understanding of the process that we can start building real rotating parts that are going to operate at speed. So, things that you would really put in an engine.”

The printer uses a spool of aluminum wire that is melted and fabricates the part drop by drop in a tray that’s about one-foot-by-one-foot, which is cheaper and safer than the current powder-based printers that are in wide use today, said Tali Rosman, Xerox’s general manager of 3D Printing

In a press release, retired Marine Col. Todd Lyons of the Naval Post Graduate School alumni association, said liquid metal printing has the potential to fundamentally change the military supply chain. “By providing the right digital tools and the liquid metal printer, all of a sudden we’ve helped transform not just the supply chain, but how the Department of Defense thinks operationally about supplying war,” he said.

[The US Navy’s postgraduate school is taking a stab at metal 3D printing \(defensenews.com\)](http://defensenews.com)

[Return to Index](#)

Naval Postgraduate School adds Xerox ElemX 3D Printer

(MarineLink 13 Feb 21) ... Ned Lundquist

The Navy is a step closer to achieving the vision of being able to fabricate parts on demand. Xerox and the Naval Postgraduate School (NPS) have announced a strategic research collaboration to advance 3D printing and additive manufacturing.

As part of a Collaborative Research and Development Agreement (CRADA) between NPS and Xerox, a Xerox ElemX Liquid Metal Printer has been installed at the school’s Large Experiment Annex on campus. NPS is the first site anywhere in the world to install this new technology.

“From the age of sail to the nuclear era, Sailors have been fixing things at sea so they can complete the mission, said NPS President retired Vice Adm. Ann Rondeau. “This partnership is about the strategic ability of the Navy to have Sailors on ships with the capability through creativity and technology to advance their operations at sea. Through collaboration, NPS and Xerox, with the support of the NPS Alumni Association and Foundation (NPSAAF), are helping build a Navy for the 21st Century.”

With access to the ElemX liquid metal printer and other state-of-the-art additive manufacturing equipment, NPS faculty and students will be able to design and create on-demand items as part of thesis research.

Creating parts when needed not only contributes to readiness, but also reduces reliance on lengthy, complex logistics chains.

“Global supply chains leave industries like aerospace, automotive, heavy equipment, and oil and gas vulnerable to external risks,” said Tali Rosman, Xerox Vice President and General Manager, 3D Printing. “Our goal is to integrate localized 3D printing into their operations, and the real-time feedback from NPS gives us actionable data to continuously improve the ElemX.”

The CRADA agreement benefits the naval service as well as Xerox.

“The military supply chain is among the most complex in the world, and NPS understands first-hand the challenges manufacturers must address,” said Xerox Chief Technology Officer Naresh Shanker. “This collaboration will aid NPS in pushing adoption of 3D printing throughout the U.S. Navy, and will provide Xerox valuable information to help deliver supply chain flexibility and resiliency to future customers.”

“As the Department of the Navy’s applied research university, NPS combines student operational experience with education and research to deliver innovative capabilities and develop innovative leaders with the knowhow to use them,” said Rondeau. “This collaborative research effort with Xerox and the use of their 3D printing innovations is a great example of how NPS uniquely prepares our military students to examine novel approaches to create, make, prototype and manufacture capability wherever they are.”

According to retired U.S. Marine Corps Col. Todd Lyons, NPSAAF vice president, providing the right digital tools and the liquid metal printer has helped transform the supply chain, as well as how the Department of Defense (DoD) thinks operationally about supplying war.

“This is one way to bend the cost curve so that the DoD is not spending a thousand dollars for every dollar that a peer competitor spends,” Lyons said.

[Naval Postgraduate School Adds Xerox Elemx 3D Printer \(marinelink.com\)](http://marinelink.com)

[Return to Index](#)



EDUCATION:

New NPS Graduate Certificate Program Provides Context, History to Great Power Competition

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With the recent release of the CNOs Navigation Plan 2021 and the Tri-Service Maritime Strategy, NPS is continuing to advance GPC programs across the virtual and physical campus. In addition to the new program, recent events like the virtual Secretary of the Navy Guest Lecture with the former commander of U.S. Strategic Command retired Adm. Cecil Haney on the subject of “Great Power Competition in the Cognitive Age,” and an additional maritime security certificate focused on maritime domain challenges, are leading to a full spectrum of GPC-related educational opportunities.

“The GPC DL Certificate is well-situated to respond to recent strategic documents that are all centered around the DOD’s strategic shift to GPC,” said Cmdr. Paul Rasmussen, National Security Affairs (NSA) Department Program Officer, “particularly in educating the leaders charged to develop and execute this strategy.”

Within the GPC certificate program, the NSA Department included an education skill requirement aimed at “analyzing the factors shaping the new era of increasing geopolitical competition among the major powers” and “understanding Chinese and Russian activities and potential U.S. response across all dimensions of power, including diplomacy, economic competition, influence campaigns and traditional military force.”

According to U.S. Marine Corps Maj. Shane Kraft, an NPS DL student serving as the Executive Officer for Marine Unmanned Aerial Vehicle Squadron (VMU) 3, the course has offered him an opportunity to analyze the history behind current global contention, which has improved his understanding of strategic relationships in the modern world.

“I feel that pursuing a comprehensive understanding of global, geopolitical interactions is important for any servicemember, and this curriculum is an opportunity to develop that knowledge,” said Kraft.

While the term “Great Power Competition” can cover a wide spectrum of topics, program organizers have developed a curriculum for students to understand the nature of GPC historically, as well as its current dynamics. The objective is to have students learn and understand the core motivations behind peer adversaries, like China and Russia, and the political, economic and defense challenges they present. The various courses will analyze the tools China and Russia use to further their interests in various regions of the world and in cyberspace, as well as discuss the range of possible U.S. and allied responses to peer-nation behavior.

As a microcosm of NPS as a whole, the core goal of the curriculum is to deepen the critical-thinking skills of its military officer students.

“I am often exposed to aspects of Great Power Competition in briefs, discussions, and training, so I thought it would be professionally enhancing to pursue a broader and deeper understanding of the topic,” noted Cmdr. Sean Welch, an NPS DL student serving at Commander, Submarine Squadron 15.

“At my current command, the information from the course will help me add to any discussions, training, or briefs on the current GPC environment,” he added. “At my next command, it will help me lead those discussions.”



In today's digital age, it's imperative for leaders to stay current as information can change and spread throughout the world in a few clicks of a keyboard. For leaders who consistently deepen their understanding of GPC and allow their subordinates to follow suit, the program helps them to lead a more adept crew ready to respond.

"As a senior officer, this broader understanding of great power competition is foundational for understanding and acting within today's strategic environment," said DL student Navy Capt. Chris Cavanaugh. "In my situation as the Submarine Force officer community manager," Cavanaugh explained, "participating in an NPS distance learning program is giving me a firsthand perspective on how best to integrate advanced education opportunities into officer career paths."

Due to a strong demand, Rasmussen noted that NPS is offering an in-resident version of the GPC Certificate. The course is slated to begin in the upcoming Spring Quarter with registration already open.

The next cohort for the DL version of the GPC Certificate is set to begin in July with the hope of opening up the program to Air Force and Army active-duty personnel, as well as DOD civilians. For more information on the program, and to submit an application package, contact NSA Program Officer Cmdr. Paul Rasmussen at nsaprogramofficer@nps.edu.

[New NPS Graduate Certificate Program Provides Context, History to Great Power Competition > United States Navy > News-Stories](#)

[New NPS Graduate Certificate Program Provides Context, History to Great Power Competition - Naval Postgraduate School](#)

[Return to Index](#)

Systems Engineering Capstone Competition Develops Real Solutions to Real Challenges

(Navy.mil 12 Feb 21) ... Javier Chagoya

(NPS.edu 12 Feb 21) ... Javier Chagoya

The Naval Postgraduate School's (NPS) Systems Engineering Management (SEM) programs held their latest Outstanding Capstone Project Award competition, with four teams of students developing challenging solutions to real-world problems in their efforts to take top honors.

The competition is the culminating event of the SEM (522), and SEM - Systems and Program Management (722) curricula, each 18 months long with six months spent in part on the capstone project. The student teams focus on finding solutions to specific problems posed by real commands ... This year, the Army Research Lab – West Point, the U.S. Naval Academy, U.S. Army PEO Soldier and the Joint Special Operations Command (JSOC) submitted the challenges.

To select the top team for the award, an in-depth analysis by a judging panel evaluates each team based on the value and impact of their study to the primary stakeholder, as well as the application of concepts and techniques promoted in the curricula.

This year, the student team consisting of U.S. Army Maj's. Ted Cha, Chris Wimsatt, and Ray Ybarra, and Army Capt's. Blake Davis, Zachariah Shutte, and Douglas Snodgrass took top honors for their work on a solution to JSOC's submitted challenge of evaluating gaming engines for mixed reality visualization applications.

Essentially, the team helped JSOC analyze and research an appropriate gaming engine that will help create mixed reality (MR) environment for visualizing and operating environment prior to mission execution. Procurement depends on the pool of commercially-available engines. As such, JSOC required a systematic, data-driven approach for selecting the appropriate engine.

"Every project that the faculty present to students is based on a real-world problem that an actual customer has posited," said Associate Professor and retired Army Col. Andy Hernandez. "To be viable, the capstone project requires students to use newly-gained skills and their own practical experience [to create] credible, defensible solutions near real-time."

Based on JSOC's needs, the team needed to develop a structured approach to assess different MR gaming engine alternatives. Using multi-objective decision analysis and additive value modeling, the research team produced a credible, repeatable, traceable selection process to compare alternatives.



“A critical part of the study saw the team combine theory and their own operational experiences to map quantifiable system attributes to value functions,” said Hernandez. “The results provided JSOC a means to compare different gaming engines under a common value scale. While the methodology was developed specifically for the [mixed-reality] gaming engine, the mathematical foundation that the team built was robust enough to apply to different systems that JSOC may examine in the future.”

According to Wimsatt, both the curriculum and the competition have given him an advantage as he enters the Department of Defense acquisition community.

“Spending 18-months in a culture that lives and breathes systems engineering tends to shape individual perspective on the acquisition process,” said Wimsatt. “The SEM curriculum taught at NPS is directly applicable to DOD’s acquisition community, and will help us meet our obligations to the warfighter by delivering a great product and to the American taxpayer.”

“An operationally-relevant contribution is what the capstone projects aims to achieve,” added Hernandez. “The SEM capstone project is a tangible and essential link between academia and the operational environment to which all students will return.”

NPS’ Systems Engineering Management programs (curricula 522 and 722) are interdisciplinary, combining systems engineering with acquisition management knowledge and skills. The program is intended to broaden the technical capabilities of officers who may have non-technical backgrounds, so they are better able to manage and lead acquisition programs for the increasingly complex combat systems that the DOD needs.

[Systems Engineering Capstone Competition Develops Real Solutions to Real Challenges > United States Navy > News-Stories](#)

[Systems Engineering Capstone Competition Develops Real Solutions to Real Challenges - Naval Postgraduate School \(nps.edu\)](#)

[Return to Index](#)

FACULTY:

The Gulf War’s Afterlife: Dilemmas, Missed Opportunities and the Post-Cold War Order Underdone

(Texas National Security Review 10 Feb 21) ... Samuel Helfont, assistant professor of strategy and policy in the Naval War College’s Program at the Naval Postgraduate School in Monterey, California

The Gulf War is often remembered as a “good war,” a high-tech conflict that quickly and cleanly achieved its objectives. Yet, new archival evidence sheds light on the extended fallout from the war and challenges this neat narrative. The Gulf War left policymakers with a dilemma that plagued successive U.S. administrations. The war helped create an acute humanitarian crisis in Iraq, and the United States struggled to find a way to contain a still recalcitrant Saddam Hussein while alleviating the suffering of innocent Iraqis. The failure of American leaders to resolve this dilemma, despite several chances to do so, allowed Saddam’s regime to drive a wedge into the heart of the American-led, post-Cold War order. While in the short term the war seemed like a triumph, over the years its afterlife caused irreparable harm to American interests.

In June 1991, nearly 5 million onlookers enthusiastically welcomed American troops returning home from the Gulf War as they marched in a ticker-tape parade through New York City’s “Canyon of Heroes.” This image of the Gulf War as a triumph has proved enduring. As two historians of the war wrote a decade later, the Gulf War was “one of the most successful campaigns in American military history.” For many Americans, the war exorcised the demons of Vietnam. Others have contrasted the success of the 1991 Gulf War with the failure of the 2003 Iraq War. Such praise has transcended domestic American politics. Both the Clinton and Obama administrations admired the way President George H. W. Bush handled the conflict. Despite some handwringing about Saddam Hussein remaining in power and the fact that there was no World War II-style surrender, the conflict is still remembered as a “good war”



or, as one Marine Corps general described it, a “beautiful thing.” Unsurprisingly, it has had an outsize impact on the way Americans think war should be conducted.

Yet, just a few miles north of the June 1991 ticker-tape parade, the difficulties American diplomats were facing at the United Nations offered a quite different image of the war’s place in history. The Gulf War had caused much more damage to Iraqi infrastructure than American officials had anticipated or acknowledged. As a result, the conflict contributed to an acute humanitarian crisis that developed during and after the war. Moreover, the Iraqi regime was carrying out atrocities against its own people and failing to abide by the Gulf War’s ceasefire agreement that permitted U.N. inspectors full access to its weapons sites. In response, the United States insisted on keeping economic sanctions on Iraq in place to coerce the Iraqi regime into full compliance. However, these sanctions further deepened the emerging humanitarian crisis in Iraq, punishing civilians for the crimes of a regime that they had little ability to influence. Throughout the following decade, the inability of the United States to find a way out of this dilemma plagued American diplomacy and diminished the country’s international standing.

This outcome was not inevitable. Following the war, at least two opportunities arose for finding a formula to hold Baghdad accountable while also alleviating the humanitarian crisis in Iraq. As new archival material makes clear, the American failure to seize either of these opportunities caused lasting, and probably irreparable, damage to U.S. interests and to the post-Cold War order that the United States wanted to build. The first opportunity emerged from a plan in the summer of 1991 to separate the humanitarian situation in Iraq from the United Nations’ attempt to eliminate illicit Iraqi weapons programs. The second opportunity arose following Bill Clinton’s election in 1992. Iraqi records show that once Clinton replaced Bush, Baghdad was prepared to adjust its approach to the United States and the international community. As a result, the United States had a clear chance to establish a more sustainable policy on Iraq. Both of these opportunities offered a way out of the dilemma that America faced in the wake of the Gulf War and seizing them would have led to more favorable outcomes for U.S. interests and for the post-Cold War system.

Bush had sold the Gulf War as a way to forge the post-Cold War international system into a “new world order” that would unite the globe in a liberal, American-led system rooted in the rule of law. This was a laudable goal. Yet, the fallout from that war ultimately undermined any hopes for such a system. New archival material from the Iraqi Baath Party’s archives and the Clinton Library demonstrates how humanitarian issues in Iraq poisoned American foreign relations and became a weapon for Iraq and other states to undermine American leadership of the international system. The resulting frustration and ill will propelled the United States into the 2003 Iraq War, which only further undermined its international standing.

Most critical analyses of the Gulf War fail to consider the aftermath of the war. When they do, they often debate whether the United States won the Gulf War but lost the peace. However, that debate artificially separates the war from its political fallout, including the 2003 Iraq War. In fact, most debates about Iraq that occurred in 2003 — including debates about regime change — had their origins in the dilemma that the Gulf War created for U.S. policy. This article explicitly links these events, offering a corrective to historical narratives of the Iraq wars.

These insights stem from new research with Iraqi, American, and U.N. records. The Iraqi archives are particularly interesting and have generated a wealth of new literature over the past decade. However, immersing oneself in Iraqi and Arabic sources almost immediately reveals a disparity between the destruction they describe in Iraq during the 1990s and the American narratives of a clean and precise war in 1991. As the second half of this article demonstrates, this disparity facilitated Iraqi attempts to drive a wedge between the United States and its international partners. Saddam’s regime spent considerable time and effort highlighting, in cinematic detail, the suffering that the Iraqi people experienced because of the Gulf War and international sanctions, juxtaposing it against American narratives about the war and its aftermath to devastating effect.

This article first describes the policy dilemma that the United States faced following the Gulf War. It then discusses the opportunities that the United States missed to deal with that dilemma. Finally, the article shows how these missed opportunities weakened the post-Cold War international system and ultimately contributed to the American decision to invade Iraq in 2003.



America's Post-Gulf War Dilemma

The months following the end of the Gulf War presented the international community with competing images of triumph and despair: triumph for the United States and the United Nations, despair for Iraq and its civilian population. This Janus-faced outcome created a dilemma. How could the international community preserve the gains it had made during the Gulf War in solidifying a post-Cold War system based on the rule of law, while also addressing the acute humanitarian crisis that had engulfed millions of Iraqi civilians?

Triumph

The triumphal feelings that emerged at the end of the conflict surpassed what one might expect from a limited regional war. As the British ambassador to the United Nations argued, the war was “of far greater and of far more positive significance for all countries in the world, and for [the United Nations] as a whole, than the many regional conflicts with which we have tried to grapple over recent decades.” The conflict, he argued, “marked a clear, firm and effective determination of the world community not to allow the law of the jungle to overcome the rule of law.” The American ambassador called the war’s ceasefire agreement “unique and historic,” claiming that “it fulfils the hope of mankind.” In a sign of the times, the Soviet Union’s ambassador agreed, arguing that the conflict demonstrated “the soundness of the new thinking, the new system of international relations.”

These sentiments stemmed from the way that the Bush administration sold the war. Shortly after the Iraqi invasion of Kuwait on Aug. 2, 1990, Bush began promoting a war to liberate Kuwait by connecting it to visions of a liberal and more humane post-Cold War order. On Sept. 11, 1990, he made his case for war in a widely publicized address to Congress. He linked the Gulf crisis with the end of the Cold War, explaining that the “crisis in the Persian Gulf, as grave as it is, also offers a rare opportunity to move toward an historic period of cooperation.” He stated explicitly that a “new world order” was one of the objectives of the coming Gulf conflict and he argued that the crisis would birth “a new era — freer from the threat of terror, stronger in the pursuit of justice, and more secure in the quest for peace.” This was no ordinary foreign policy venture. As Bush explained, “A hundred generations have searched for this elusive path to peace, while a thousand wars raged across the span of human endeavor.” Yet, the conflict in the Persian Gulf would finally put within reach a “world in which nations recognize the shared responsibility for freedom and justice. A world where the strong respect the rights of the weak.”

This almost utopian rhetoric about a new world order tapped into the broader *zeitgeist* at the end of the Cold War. A year earlier, in 1989, the political scientist Francis Fukuyama famously declared the “end of history” on the pages of the *National Interest*. For Fukuyama, the coming victory of liberal democracy in the Cold War represented the end state in the long evolution of political ideology. Bush himself had made a similar, though less philosophical, argument about the triumph of liberal democracy in his 1989 inaugural address. Such thinking mixed and coalesced with other ideas about the evolution of international politics and warfare during the late 1980s and early 1990s. A string of prominent intellectuals claimed that liberal democracy had prevailed and that the connected phenomena of war and authoritarianism were becoming obsolete. These “millenarian expectations,” as one prominent historian has termed them, allowed Bush to argue that a new world order could replace the might-makes-right calculations of previous ages.

The world order Bush promised was not exactly new. A liberal order rooted in collective security had existed in theory since the advent of the United Nations after the world wars. However, the Cold War had blocked its full implementation. The warming relations between Moscow and Washington in the late 1980s meant a new order could be based on cooperation rather than conflict at the United Nations, making a rules-based system possible. As Bush declared, it would create a world “where the rule of law supplants the rule of the jungle.”

Bush is often described as a foreign policy realist rather than an idealist. It is difficult to know whether he was influenced by liberal ideas behind a new world order and, if so, to what extent, or whether he adopted such rhetoric simply to sell the war at home and abroad. Either way, his rhetoric clearly raised expectations that American actions would emulate the ideals that Bush had expressed. The United States gained enthusiastic international support for the war, leading to an unprecedented string of binding United



Nations Security Council resolutions. Javier Pérez de Cuéllar, the U.N. secretary-general at the time, argued that enforcing these resolutions represented a new approach to international relations. He insisted that “enforcement” of Security Council resolutions was “qualitatively different from the way of war” because it emphasized “diplomatic efforts to arrive at a peaceful solution” and strove “to minimize undeserved suffering.” As such, while linking the Gulf crisis to idealist dreams of a new world order was useful in rallying support, it also set high and perhaps unrealistic expectations about the amount of damage and suffering the war would cause in Iraq.

On the tactical and operational level, the Gulf War achieved remarkable successes. The American-led coalition quickly expelled the Iraqi military from Kuwait in January and February of 1991. The world seemed to have come together to enforce a new global system and the conflict’s ceasefire sparked the triumphalist, internationalist rhetoric highlighted above. Soon after the war ended, however, the sense of triumph was quickly overshadowed by the dilemmas that the war produced.

Despair

The pre-war promise “to minimize undeserved suffering” did not match the reality on the ground for Iraqis. The Gulf War was clearly less destructive than other 20th-century conflicts, such as the world wars or the wars in Korea and Vietnam. Nevertheless, in addition to targeting the Iraqi military directly in and around Kuwait, the U.S. Air Force pushed a strategic bombing campaign that was designed to win the war by incapacitating the Iraqi state and its critical infrastructure. This strategic bombing deep inside Iraq contributed significantly to the humanitarian crisis after the war and complicated America’s post-war diplomacy. Academic assessments of the war have argued that strategic bombing in Iraq was largely ineffective and that the air campaign would have been equally successful in expelling Iraqi forces from Kuwait had it restricted its targets to the Iraqi military and command-and-control systems.

The war damage was compounded by Saddam’s crackdown on mass uprisings across the country following Iraq’s defeat. The regime deployed its elite Republican Guard to Shia-dominated southern Iraq, where it laid waste to several towns and damaged important religious shrines. In some cities, bodies literally piled up in the streets. The regime’s counterattack in northern Iraq led over a million Kurds to flee their homes for makeshift camps along the Turkish and Iranian borders. The regime had used chemical weapons against the Kurds in a genocidal campaign known as al Anfal in the late 1980s, and many Kurds feared Saddam was planning another round of atrocities. Thus, the war not only damaged Iraq directly with bombs but also led to several rounds of unrest and harsh repression from the Iraqi government that further worsened the humanitarian situation.

The destruction of Iraq’s infrastructure and the suffering of Iraqi civilians that resulted from the war and its aftermath contrasted with the idealistic narratives about a clean and precise war that American officials had presented during the conflict.

The extent of the damage that the war and its aftermath caused became clear when several independent survey teams visited Iraq in the spring and summer of 1991. A U.N. team led by Under-Secretary-General Martti Ahtisaari claimed “nothing that we had seen or read had quite prepared us for the particular form of devastation which has now befallen the country.” The team argued that the war “wrought near-apocalyptic results upon the economic infrastructure of what had been, until January 1991, a rather highly urbanized and mechanized society.” In May, a team of medical and legal experts from Harvard University visited Iraq and completed a peer-reviewed study. They came to largely the same conclusions as the U.N. team, estimating that “at least 170,000 Iraqi children under five years of age are likely to die from epidemic diseases unless the situation in Iraq changes dramatically for the better.” As these reports showed, 9,000 homes were destroyed and over 70,000 people were left homeless in the aftermath of the war. Coalition bombing damaged or destroyed 17 of Iraq’s 20 power plants. Eleven of them were deemed unrepairable. These power plants were needed to maintain essential infrastructure like water treatment facilities. Without them Iraqis struggled to find clean water. Overall, these and similar reports agreed with the findings of Ahtisaari’s team, that “most means of modern life support have been destroyed or rendered tenuous.”

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officials had presented during the conflict. In April 1991, the *New York Times* reported that the reality on the ground in Iraq “seemed to be at odds with allied military officials’ insistence that the damage in Iraq was largely confined to military sites and transportation links.” In June 1991, the *Washington Post* reported, “The strategic bombing of Iraq, described in wartime briefings as a campaign against Baghdad’s offensive military capabilities, now appears to have been broader in its purposes and selection of targets.”

This situation was exacerbated by the fact that American planners had allowed for some excessive damage to Iraqi infrastructure because they assumed that following Iraq’s capitulation or regime change, the United States would quickly move in to rebuild the country. However, because the war ended so quickly, a war termination strategy was never completed, let alone coordinated with plans and operations. Thus, the ceasefire did not set the conditions for rebuilding to occur.

Dilemma: Balancing Enforcement and Humanitarianism

Addressing the humanitarian crisis in Iraq was complicated by the need to enforce Iraq’s compliance with the war’s ceasefire agreement. The Iraqi government agreed to give up its weapons of mass destruction and the programs it had used to produce them. Yet, because coalition troops had left Iraq at the end of the war, economic sanctions were the United Nations’ only real means of leverage against the Iraqi regime. By mid-June, it became clear that Iraq was attempting to limit the actions and effectiveness of U.N. weapons inspectors. The Iraqi regime committed several clear violations of the ceasefire agreement, and the regime continued the brutal crackdown on its own population.

Sanctions were a problematic tool for enforcing compliance because they hurt the Iraqi population at least as much as they hurt the regime. Once it became clear how much damage the war and its aftermath had caused, some states and U.N. officials began to call for easing sanctions on humanitarian grounds even if Iraq did not fully comply with the U.N. dictates. The United Nations’ own survey team recommended an immediate end to the embargo on Iraq to prevent “imminent catastrophe.” During the ceasefire discussions at the Security Council, the French representative cited the U.N. survey team’s report and argued, “The necessary goal of the restoration of lasting peace in the Gulf should not involve measures that are unnecessarily punitive or vindictive against the Iraqi people. It would be unjust if they were held responsible for the actions of their leader.”

By June 1991, the Security Council was split. The United States and the United Kingdom demanded that Saddam be removed from power. While the official U.S. objectives in the Gulf War, as outlined in National Security Directive 54, did not include regime change, the war raised expectations that Saddam’s days as leader of Iraq were numbered. Secretary of Defense Richard Cheney later admitted that the U.S. military had Saddam in its crosshairs from the first day of the conflict. Bush himself claimed to have “miscalculated” in his assumption “that Saddam could not survive a humiliating defeat.” He lamented that Saddam remained in power following the war and later stated that the United States “could have done more” to weaken his regime. In retrospect, it seems clear that the Bush administration felt uneasy about using the American military to march on Baghdad and overthrow Saddam. However, Bush and his advisers wanted regime change and assumed it would take place through either a precision strike or internal Iraqi actions. These sentiments carried over to the post-war period, with Washington wanting to solve the compliance-versus-humanitarianism dilemma by removing Saddam from power.

Other states at the Security Council were uncomfortable with this approach. The United Nations had never approved regime change in Iraq and the U.S. government’s demand for it seemed like a heavy-handed shift toward unilateralism. Concerns over the humanitarian situation and violations of Iraqi sovereignty pushed a majority at the Security Council — led by China, India, Yemen, and Cuba — to press for easing the sanctions. This divergence began a long process that eventually ended with the shattering of the Security Council’s post-Cold War unity.

Missed Opportunities

To avoid a standoff at the Security Council over Iraq in the summer of 1991, member states needed to find a formula that would address the humanitarian situation in Iraq while preventing the regime from



skirting binding resolutions and rearming. By mid-summer, the secretary-general presented the outlines of just such an approach to the Security Council. Unfortunately, the United States failed to seize the opportunity.

American Overreach

The United Nations secretary-general appointed the senior U.N. statesman, Prince Sadruddin Aga Khan, to be his executive delegate for the humanitarian crisis in Iraq. In July, Sadruddin returned from Iraq with a detailed report on the scale of the problem as well as recommendations for addressing it within existing Security Council resolutions. The “impact of the sanctions,” he argued, “had been, and remains, very substantial on the economy and living conditions of [Iraq’s] civilian population.” At that time, Iraq was only able to generate 25 percent of the electrical power it had prior to the war. Iraqis lacked access to clean water, raw sewage was flowing in the streets of some cities, and outbreaks of typhoid and cholera had already occurred. Additionally, sanctions had led to food shortages and threatened to “cause massive starvation throughout the country.”

The biggest impediment to addressing the humanitarian crisis in Iraq was financial. The report surveyed critical sectors of Iraqi society (agriculture, medicine, water, electricity, etc.) to estimate their needs. Even the most minimal, short-term effort to supply the necessary humanitarian aid required tens of billions of dollars. These “massive financial requirements” were “of a scale far beyond what is, or is likely to be, available under any United Nations-sponsored programme.” After all, the United Nations’ appeal to donors for humanitarian assistance for Iraq, Kuwait, and the border areas with Iran and Turkey had only raised \$210 million.

The only state capable of financing Iraqi reconstruction was Iraq. Its oil resources had the potential to fund reconstruction, but U.N. sanctions prevented Baghdad from selling its oil or importing the materials it needed to rebuild the country. Sadruddin’s report highlighted that existing resolutions permitted exceptions to prohibitions on Iraqi exports and imports to ensure the Iraqi government had “adequate financial resources” to procure “essential civilian needs.” The exceptions could clearly include oil exports and the import of critical goods for reconstruction. However, such exceptions required approval by the Security Council’s Sanctions Committee.

To guarantee that Baghdad used oil revenue to address the country’s humanitarian crisis rather than for other, illicit purposes like rearming, the report argued, existing monitoring mechanisms could easily be expanded “to provide adequate information on the destination and use of the goods in question.” All money would flow through banks in the United States and, as the report detailed, “commercial transactions relating to the export of oil and the import of the above-mentioned goods and services” would be “sufficiently transparent at the international level to allow adequate controls with respect to their shipment and entry into Iraq.” Before leaving Iraq, Sadruddin received Iraqi assurances that the country would acquiesce to this plan and its monitoring mechanisms.

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This proposal was designed to meet the needs of the Iraqi people while maintaining the security architecture to prevent Iraq from rearming in violation of Security Council resolutions. It also left weapons inspections and more targeted sanctions against the regime in place. In practice, the proposal separated humanitarian issues from international security. The report received enthusiastic support from a majority of the Security Council members. In early August, India lauded its “useful suggestions,” claiming they made “evident that the humanitarian objectives we aim at can be achieved with simple and yet effective arrangements for observation and regular reporting.” China made clear that it strongly backed the report’s “sound recommendations.”

The United States was less enthusiastic. Washington was not happy that Saddam had survived the war, and it still viewed him as the primary impediment to a cooperative, post-Gulf War Iraq. While the Bush administration could not muster enough support at the United Nations to demand Saddam’s removal, it did not want to allow him to reconsolidate his power. By giving Baghdad the power to sell its oil and provide services for the Iraqi population, this report’s recommendations provided Saddam the

means to resolidify his rule. Thus, Washington led a minority effort at the Security Council to block the implementation of the report's recommendations.

The United States backed a separate plan in which the United Nations would manage the sale of Iraqi oil and use the proceeds to deliver food and essential supplies to Iraqis. Like Sadruddin's proposal, this "oil-for-food" arrangement provided humanitarian relief to the Iraqi population while limiting Saddam's ability to divert money to illicit programs. However, it cut the regime in Baghdad out of the equation. States that had backed Sadruddin's proposal also backed this plan, though several of them voiced reservations about American unilateralism in blocking what they perceived to be a better formula. China, India, and several smaller states worried that the American-backed program would not provide enough humanitarian aid and that it excessively encroached on Iraqi sovereignty.

The American-backed oil-for-food program easily passed a Security Council vote, but it immediately ran into a major problem. The resolution assumed that Saddam cared more about the Iraqi people than he did about his own power. That assumption proved incorrect and he rejected the program even in the face of a humanitarian catastrophe. Despite considerable efforts by senior U.N. officials, including Secretary-General Boutros Boutros-Ghali, who took office at the end of 1991, Saddam continued to reject the resolution as a violation of Iraqi sovereignty.

With Saddam's refusal to cooperate, the Bush administration blamed him rather than the sanctions for the humanitarian situation. Technically, Bush was right. Saddam could have significantly alleviated his people's suffering by cooperating. Yet, riding high off what they perceived as the success of the Gulf War, American policymakers failed to comprehend the political power of Iraqi suffering or the damage it could cause to U.S. interests down the road. By contrast, Saddam knew the suffering of the Iraqi people was an important political weapon for his regime. In many ways, he benefited from his people's anguish and, as more recent research has demonstrated, his regime manipulated international surveys to show that Iraqis were suffering even more than they were. In essence, the United States found itself playing a game of chicken with the fate of Iraq's civilian population. A liberal country like the United States could not win that type of struggle against a regime that cared little for its own people's anguish.

In hindsight, Washington overreached in rejecting Sadruddin's proposal. The U.S. government appeared callous to the Iraqi people's suffering and to be acting in an increasingly unilateral manner at the Security Council. The proposal was far from perfect and Saddam could have attempted to manipulate it to skirt restrictions on his regime. Yet, a unified international community would have been well-equipped to deal with his intransigence. As this article demonstrates below, the unresolved humanitarian situation in Iraq helped break up the cooperative international order that the Gulf War had forged and made U.S. efforts to contain Iraq more difficult.

Iraqi Outreach

The failure of the oil-for-food program in 1991 and early 1992 left Iraq and the United States blaming each other for the plight of the Iraqi people. This standoff continued until November 1992, when Bush lost the presidential election to Bill Clinton. Saddam and other high-ranking Iraqis interpreted the American election as a referendum on Bush's approach to Iraq. In closed-door meetings following Clinton's election, Saddam and his senior advisers mused that the Clinton administration offered new opportunities. In one discussion, Saddam stated, "I believe that during [Clinton's] reign, a change will occur," and internal Iraqi documents reveal that Baghdad saw Clinton's victory as a chance to "turn a new page."

The Iraqi regime briefly altered its tone and attempted to open a dialogue with Washington. As a regime report stated in November 1992, the Iraqi press needed, "at least for the time being," to "not write negative headlines" about the American president-elect. The regime sent cables to every Iraqi mission around the world instructing its representatives to take advantage of the changes in Washington. In addition to holding "solidarity activities with the people of Iraq," they were to meet with American, British, and French ambassadors to convince them that sanctions on Iraq violated international law and human rights. They were to emphasize that these states could make 1993 a year of peace. To the extent possible, the missions were to send similar messages to Clinton, members of the U.S. Congress, the U.S. secretary of state, and other senior American officials.



In another instance, Baghdad reached out to Clinton through the Council of Lebanese American Organizations, which the Iraqi regime believed had direct contacts with Clinton and widespread political influence in the United States. The Iraqis also tried to contact Clinton through Oscar Wyatt, who was the founder of the Houston-based petroleum and energy firm, Coastal Corporation. Wyatt worked with the Iraqi-American, Samir Vincent, who was later arrested on charges of corruption related to the oil-for-food program and of operating as an illegal agent of the Iraqi regime. Iraqi Deputy Prime Minister Tariq Aziz provided Wyatt and Vincent a letter to deliver to Clinton on behalf of the regime that, the Iraqis hoped, would help establish a better relationship. As an Iraqi official told Saddam, “Samir and Oscar are very optimistic.”

These outreach efforts were not simply an attempt to change American policy. The Iraqis understood that they, too, needed to adopt a new approach and to carry out internal reforms. As stated in a report by the Baath Party’s bureau that was responsible for foreign relations, Iraq and the United States shared interests in “balancing Iran strategically” and in relation to oil. These interests could form the basis of a new relationship during the Clinton administration. However, it added, Iraq must “keep up with modern times.” The report discussed the need to address human rights violations in the country and even to introduce some democratic reforms. This was not the first or last time that the Iraqi regime spoke about the need for democratization, and one should read such documents with a healthy dose of skepticism. Saddam ruled a brutal, tyrannical regime. It was not on the cusp of becoming a liberal democracy. Indeed, the report’s authors clarified that they had “intense reservations” about most forms of democracy and that Western-style democracy was neither good nor viable for Iraq.

Nevertheless, the report stated, “it is not hidden from the [regime’s] leadership that the global orientation is marching toward the realization of democratic practices.” Thus, the report suggested the Iraqi parliament discuss the formation of committees representing all slices of society and then arrange “free elections” for these committees in which all Iraqis could participate. The report argued that, in the immediate wake of the Gulf War, the regime could not take these steps without giving the impression that it was succumbing to internal and international pressures. Such an impression would have empowered the regime’s adversaries. However, that time had passed. While the report recommended that the regime proceed with “extreme caution,” it made clear that calls for democratic reforms would “resonate globally.” In taking such actions, the regime could cooperate with “concerned global organizations” at the United Nations and in the United States to improve Iraq’s international status.

Clinton’s approach killed any chance for reform in Baghdad or for finding a new arrangement that could address the ongoing humanitarian crisis in Iraq.

This report was not without critics in the regime, especially because it suggested that Baath Party members could lose some of their privileged status to non-Baathists. There were also limits to Saddam’s appeasement of Clinton. “Actually, it is Clinton,” he told his advisers, “who is supposed to be willing to carefully handle the relationship with us in a way where *we* don’t get upset with him.” The existence of this and similar reports on Iraqi reforms should not be taken as evidence that Iraq was on the brink of making an about-face. Yet, the report indicates a discussion that was occurring behind closed doors within the regime, and some of its suggestions were later implemented. In retrospect, the report made clear that powerful voices in Baghdad believed the Clinton administration presented new possibilities and that senior Iraqis were considering difficult measures to seize that opportunity. Had the Clinton administration explored this opening, as difficult as that would have been, it would have had the opportunity to alter Iraqi behavior and, with it, American policy.

The Clinton administration either missed the signals that Iraq was sending, or it ignored them. From the very beginning, the new administration in Washington indicated that it intended to continue its predecessor’s approach to foreign policy issues such as Iraq. Internally, the administration was divided about how much attention to give Iraq, but as a former National Security Council staffer claimed, “there was a consensus ... that Saddam was evil.” Baghdad seemed to confirm that view when it provoked a military confrontation with the outgoing Bush administration in January 1993 and then attempted to assassinate the former president in April 1993. Unsurprisingly, Washington was not interested in the Iraqi regime’s outreach.

Baghdad's interpretation of Clinton's election was almost certainly flawed. The election was not a referendum on Bush's policy toward Iraq. Nevertheless, that misperception opened at least some opportunity for reform in Baghdad and for a reset in its relationship with Washington. Instead of exploring this opportunity, the Clinton administration adopted an unworkable policy that it inherited from its predecessor. Clinton's National Security Council backed the oil-for-food resolution that the Bush administration had sponsored in August 1991 and argued that "Iraq refuses to comply with these resolutions ... because the regime would prefer the Iraqi people to suffer." Publicly, the Clinton administration introduced a policy of dual containment aimed at both Iraq and Iran, but by 1994, the CIA began running an operation codenamed "DB Achilles," which attempted to overthrow Saddam in a coup. In 1997, Secretary of State Madeleine Albright stated, "We do not agree with the nations who argue that if Iraq complies with its obligations concerning weapons of mass destruction, sanctions should be lifted." In 1998, Clinton signed the Iraq Liberation Act, which had passed unanimously in the Senate and that made regime change the official policy of the U.S. government.

Clinton's approach killed any chance for reform in Baghdad or for finding a new arrangement that could address the ongoing humanitarian crisis in Iraq. As Saddam told his advisers on multiple occasions, "We can have sanctions with inspectors or sanctions without inspectors; which do you want?" Considering the Iraqi regime's actions over the previous few years, resetting the relationship with Saddam would not have been easy and the outlines of the potential arrangement remain murky because the window of opportunity closed before it could be developed fully. Yet, in hindsight, Iraq's outreach early in the Clinton administration offered a chance to avoid the damage to American foreign relations that ensued.

Effects of Iraq's Unresolved Crisis on World Order

The Bush administration's push for an ultimately unworkable policy in the face of viable alternatives and the Clinton administration's decision to continue that policy left an acute humanitarian crisis simmering in Iraq. This unresolved crisis provided Baghdad with a powerful political tool it could use against the United States. Over the course of the following decade, the suffering of the Iraqi people helped push states such as France and Russia out of the American-led system. America's standing fell considerably, and the post-Cold War order began to fray.

In most ways, the aftermath of the Gulf War was disastrous for Iraq. The Iraqi military, economy, and society were almost completely incapacitated. Widespread uprisings threatened Saddam's regime in the months after the war. Moreover, the Baathists began hemorrhaging senior officials. Iraq's ambassador to the United States had defected to Canada during the war, and several other Iraqi ambassadors and even the head of Iraqi military intelligence followed suit in the years following the war.

However, there were some silver linings for Saddam. Unlike most other Arab dictators, he did not rise through the ranks of the army or come to power in a military coup. His position stemmed from his involvement in a populist political party — the Baath — and he viewed his power through the prism of mass politics. The unresolved humanitarian crisis in Iraq and his obstinance in the face of overwhelming Western power provided him the opportunity to seize the mantle of leadership in a bottom-up, global opposition to American hegemony in the post-Cold War era.

During the war, Iraqis and those sympathetic to their suffering began to point out the contrast between the idealist rhetoric of the new world order and the reality that they confronted. As one Iraqi intellectual recorded in her diary after 20 days of bombing, "Bush says, we make war to have peace. Such nonsense. What a destructive peace this is. A new world order? I call it disorder." Then, a few days later, she wrote simply, "Killing is the new world order."

Saddam first realized the political power of this rhetoric when the United States bombed the al-Amiriyah bunker during the height of the Gulf War's strategic bombing campaign. The American military mistakenly thought the location was a military command center. It was actually an air raid shelter, and the bombing killed hundreds of Iraqi civilians. As news of the bombing emerged, condemnation from around the globe forced the United States to end its strategic bombing in Baghdad. In that sense, al-Amiriyah did more to curtail coalition military operations than any Iraqi anti-aircraft system. This event, more than anything else, taught Saddam the power of weakness. Early in the crisis, Saddam told his advisers that

Iraq needed to appear powerful to attract support. Consequently, as one American journalist working in Iraq at the time observed, the Iraqi regime initially tried to hide civilian casualties in an attempt to project strength. By contrast, after the bombing of al-Amiriyah, the regime went to great pains to highlight Iraqi casualties. Saddam realized that the narrative of a weak and helpless Iraq being bullied by a neo-imperialist superpower was much more effective than a narrative of a strong Iraq standing up to the United States.

This realization formed the core of Iraq's political strategy to break up the U.S.-led coalition that was enforcing sanctions and inspections following the war. After the ceasefire, Iraq began linking "the new world order and the disaster of the Iraqi children." The Baath Party used the war to highlight the contradictions in the emerging international system. Because of the coalition's "interest in human rights," a Baathist pamphlet argued, "thousands of Iraqi children face death, deformity and vagrancy." It claimed that the "unjust sanctions imposed on Iraq resulted in the death of 14,232 Iraqi children during the first months [after the war], due to contamination, malnutrition and acute shortages of vaccines and medicines." The Iraqi regime also made claims about the United States targeting hospitals and schools that were exaggerated or simply untrue, but there was enough truth in its propaganda to be taken seriously by global audiences. Baghdad paid close attention to the studies conducted by the United Nations and Harvard University that highlighted how the Gulf War and sanctions destroyed the Iraqi economy and the state's essential functions. Iraqi Baathists then distributed the results of these studies widely, including to key sectors in the international community. As internal Baath Party records show, they did so through both open channels as well as in covert operations, which were designed to disguise the regime's role in spreading the information.

At the end of 1991, Saddam convened a committee consisting of senior regime officials from the Foreign Ministry, the Baath Party, the Iraqi Intelligence Service, the Health Ministry, and the Ministry of Culture and Information to execute a strategy designed to break the international alliance against Iraq. This was done primarily through influence operations, which they termed *taharruk* (movement). These operations emphasized moral and humanitarian arguments like those discussed above to create bottom-up political pressure in key states, such as those that had seats in the United Nations Security Council or had important geostrategic positions in the Middle East. The operations then combined that political pressure with manipulation of more traditional economic and geopolitical interests.

It is difficult, and maybe impossible, to disentangle the effects of Iraqi influence operations from other factors that drove international politics in the 1990s. Disapproval of American overreach and the natural attenuation of international political will to maintain sanctions would likely have occurred without any of Iraq's actions. Moreover, the most successful Iraqi efforts reinforced these other, independent forces. Thus, where the effects of one of these other forces ends and the effects on Iraqi influence operations begin is difficult to unravel. Nevertheless, the Iraqi archives reveal vast, previously unknown efforts to manipulate domestic politics in key states around the world. As internal Iraqi documents show, Iraqi Baathists working in dozens of countries spied for Baghdad, ginned up favorable media coverage, and reached out both overtly and covertly to "all people, organizations, unions, associations, political parties and anyone else who has political, popular, union, and professional influence." They also tried to intimidate and silence anyone who stood in their way.

Iraqi Baathists often worked internationally with people and groups that had little in common with the regime in Baghdad except for the fact that they opposed sanctions on Iraq. Therefore, Baathists regularly used proxy organizations and disassociated with the Iraqi embassy "to provide cover for their [Baath] Party activities." In doing so, they could avoid divisive political questions about the regime and instead argue that they were merely concerned about the well-being of their families and friends who were suffering in Iraq. Baathists courted people on both the left and the right: academics, student organizations, militant Islamists, pacifists, liberal activists, and conservative isolationists. They found allies in the media and even among some mainstream politicians. Then they attempted to bring these incongruent groups together into a loosely organized, yet potent, political force designed to achieve Iraq's strategic goals throughout the 1990s and early 2000s.

The Baathists used these influence operations to push proponents of the post-Cold War order to reconsider their support for the American-led system. The fallout was most evident in France and Russia,



both of which supported the United States in the Gulf War and its immediate aftermath, but then used their position on the Security Council to resist American policies on Iraq later in the 1990s. The Arab states that supported the Gulf War went through a similar transition. As such, Iraqi influence operations drove a wedge into the international system to the detriment of American interests.

France

Senior Iraqi officials understood that different states required different approaches. In December 1991, Aziz, the Iraqi foreign minister, argued in an internal memo that the political situation and public sentiment in the United States precluded any chance of successfully influencing the U.S. government. However, he mused, “perhaps the conditions for influencing [France] are more favorable.” These observations proved prescient. France was much more sympathetic to the suffering of the Iraqi people. Also, while France supported the Gulf War and sanctions, it avoided presenting its Iraq policies as a harbinger of a new world order. In the United Nations Security Council discussions following the Gulf War, France’s representative focused on instituting a ceasefire and “re-establishing regional security.” This focus on regional security differed significantly from the American attempt to link the conflict to grandiose ideas of world order and a new international system. Following the war, France’s approach toward Iraq remained much more flexible and Aziz saw that France provided real opportunities.

The supposedly independent proxy groups through which the Baathists worked revealed how different governments viewed Iraq. In 1994, one Iraqi proxy group, representing itself as a humanitarian and cultural organization, presented Clinton with details on the humanitarian crisis in Iraq and asked him to lift sanctions. Clinton responded curtly. He argued that Saddam was being investigated for various crimes against humanity, “including genocide,” and that sanctions on his regime needed to remain in place. The Clinton administration recognized that Iraqis were suffering, but it blamed Saddam for rejecting the oil-for-food formula. When the same Iraqi proxy group reached out to French President François Mitterrand, he responded that the information it provided on the humanitarian crisis in Iraq had a great impact on him. While Mitterrand did not commit to a change of French policy, Iraqi officials in Baghdad took note of his “positive response,” which was generally indicative of the broader sympathy for Iraqis in France.

By 1994, American diplomats stated clearly that the French were moving away from the United States on Iraq. French policy on Iraq then began to shift more dramatically with the election of President Jacques Chirac in 1995. Chirac felt the American approach was not working. While the U.S. government wanted to compel Saddam through sanctions and air strikes, Chirac recognized that the American policy was unworkable. He told Clinton, “I’m afraid we are working here with an unarmed gun.” By this, he meant that for Saddam, the “best way to regain control of the people is to pretend to be a martyr.” Thus, the more Chirac and Clinton punished Saddam, the stronger he became.

As a conservative and a Gaullist, Chirac wanted to protect France’s traditional diplomatic power against rising American hegemony. Therefore, he pushed back against U.S. policies almost by instinct. Moreover, in 1996, Saddam finally agreed to a modified version of the United Nations’ oil-for-food program that gave him more control and, as later investigations have shown, Baghdad manipulated this program to funnel money to international actors with influence at the U.N. Security Council. French officials were a major target of that effort. Some of them accepted significant enticements designed to buy their influence or reward political positions that were favorable to Iraq, which may have affected French policy.

However, the unresolved humanitarian crisis in Iraq — amplified by Iraqi influence operations — provided Chirac with political options he otherwise would have lacked. Because the French government was much more sympathetic to Iraqi suffering under the U.N. sanctions, it was more open to decoupling sanctions from weapons inspections. As the conflict continued through the 1990s, the United States began to signal that its ultimate goal was indeed to remove Saddam rather than force his compliance with U.N. resolutions. France did not see that as a viable option or one that was supported by a U.N. resolution. Instead, it wanted to give Saddam a path out of international isolation and sanctions. In essence, Paris continued to favor the policies that the United States had rejected in the summer of 1991. American

inflexibility on this issue inflamed opposition in France to U.S. policy toward Iraq on humanitarian grounds and it made it politically possible for Paris to diverge from Washington.

In 1996, the French government began to pull out of the coalition enforcing the no-fly zones over Iraq. Over the next few years, it grew increasingly hostile to the U.S. strategy in Iraq and the sanctions regime itself. Although France continued to support arms control in Iraq and remained officially supportive of the United States at the United Nations, French foreign ministry officials told visiting Iraqis in closed-door meetings that, regardless of what happens at the Security Council, they were “working hard to lift the sanctions.” Furthermore, as a historian of French foreign policy has noted, the Iraq issue began to define Franco-American relations: “[T]he French were tempted to identify the Iraq problem with what Paris, and indeed many capitals around the world, increasingly saw as a U.S. problem—Washington’s increasing unilateralist tendencies.” In that sense, issues resulting from the Gulf War significantly undermined American leadership of the international system.

Russia

The fallout from the Gulf War led other countries to challenge an American-led order as well. The Soviet Union had been an ally of Iraq until the end of the Cold War. Then Moscow sided with Bush in the Gulf War and recognized the war’s role in birthing a new, post-Cold War system of international relations. As Russia emerged from the Soviet Union, it initially embraced American attempts to use the Iraq issue to forge a new world order. For Iraq, the loss of its patron was a disaster. Iraqi diplomats claimed that Russia had fallen under the influence of the United States and “the Jewish-Zionist Lobby in Russia.” Iraqi efforts to restore relations with Russian leaders in 1991 and early 1992 were met with repeated rebuffs. A string of invitations for leading Russian politicians to visit Iraq were ignored or deflected.

Later in 1992, the Iraqi regime adopted a new, indirect approach. As the Iraqi ambassador in Moscow reported, “we were forced to extend an invitation to the opposition in parliament [to visit Iraq].” Unlike the leadership, the opposition “responded with enthusiasm” and “when the delegation returned [to Russia,] it undertook numerous activities inside and outside of parliament.” The Russian opposition worked “to explain the truth of the situation in Iraq, it defended the Iraqi view, and it demanded that the Russian government change its position on Iraq and work towards lifting the economic blockade.” The Iraqi ambassador explained that “wide circles of the Russian people are beginning to understand the just Iraqi position, and to feel that the Russian position toward Iraq is an error.” Russian policies toward Iraq, he argued, “especially intensify the nationalist opposition in its activities inside parliament and the people’s conferences, in the media, and in demonstrations.” The Iraqi Baathists in Russia continued to press these issues both among politicians and in the popular press. In doing so, they helped Russian opposition parties turn the fact that Western powers had crushed and humiliated a traditional Russian ally into a wedge issue that inflamed nationalist passions in the country. These domestic pressures forced Russia’s government, led by Boris Yeltsin, to change course. It began defending Iraq and attempting to lift the sanctions.

As with France, there were several causes for Moscow’s moving away from Washington in the 1990s. Russia strongly disagreed with U.S. policy in the Balkans and with NATO expansion into Eastern Europe. Some segments of Russian society also blamed the United States for their economic woes in the 1990s. Most of the literature on Russia’s divergence with America at the time focuses on these issues. However, Iraq played a critical and largely overlooked role in Russian-American relations.

The economic incentives that Iraq offered Russia and Russian officials almost certainly influenced Moscow’s policy. Just as important, however, was the lingering damage in Iraq caused by the war and sanctions. When Russia wanted to challenge the United States over its Iraq policy at the Security Council, the Russian representative often led with critiques about the humanitarian situation. This issue also made the Russian opposition’s arguments against American policy in Iraq much more potent than they otherwise would have been. As multiple reports from the period argue, one of the most important catalysts for Russian divergence with the United States at that time was domestic political pressure from the nationalist and communist opposition.

The Russian divergence with America over Iraq created a real dilemma for Washington and had significant implications for world order.

Iraqi Baathists operated cells in Russia that continued influence operations throughout the 1990s. As internal Baath Party records show, they regularly held meetings with the heads of Russian political parties. They also organized popular demonstrations, published articles supporting Iraq in the Russian press, and, by their own account, contributed to the “erosion of the American-British position.” At minimum, these actions amplified political positions in Russia that made cooperation with the United States on Iraq difficult for Russian leaders.

The Russian divergence with America over Iraq created a real dilemma for Washington and had significant implications for world order. The United States felt it was necessary to enforce U.N. resolutions militarily on several occasions in the 1990s. This posed a problem for U.S.-Russian relations. As Clinton explained to British Prime Minister Tony Blair, if the Russian government knew about potential American operations in Iraq, it would likely inform the Iraqi regime and put American lives at risk. If the United States did not tell Russia, the trust necessary to build a cooperative international system would break down. More often than not, the administration decided not to tell Russia about American operations in Iraq, thus driving the two sides apart.

The breakdown in the U.S.-Russian relationship over Iraq bled into other important issues as well. As early as 1993, CIA reports claimed that American actions in Iraq were affecting Russian perceptions of the conflict in the Balkans. Russian-U.S. tensions over Iraq escalated throughout the decade. Moscow eventually recalled its ambassador to the United States in response to American and British attacks on Iraq in 1998. This was the first time since World War II that the Russians had done this, and it occurred because of Iraq — not the Balkans or NATO expansion. In a phone call to Clinton, Yeltsin made clear that “what is at stake is not just the person of Saddam Hussein but our relations with the U.S.” The Russian-American relationship, which offered so much promise and hope at the beginning of the decade, never fully recovered.

The Middle East

The aftermath of the Gulf War also proved particularly problematic for Middle East states. Saddam highlighted the suffering of the Iraqi people and his influence operations spread conspiratorial propaganda about nefarious American, imperialist, Jewish, and Zionist actors as well as their collaborators in Arab capitals. The Iraqis found particularly fertile ground for this messaging among Islamists and even some violent extremists from around the Arab world. One of the Iraqi regime’s favorite tactics was to provide scholarships for Islamist dissidents from abroad to study at the Saddam University for Islamic Studies in Baghdad, where carefully selected faculty indoctrinated them. The Baathists recruited students from organizations like the Muslim Brotherhood and the Palestinian Islamic Jihad. Once these students returned to their home countries, they would agitate, sometimes violently, on behalf of Iraq.

In 1994, Saddam’s son Uday initiated one of Iraq’s most interesting influence operations when he established contact with Osama bin Laden in Sudan. After several discussions approved by Saddam himself, the Iraqi Intelligence Service agreed to bin Laden’s request to broadcast the Salafi-Islamist sermons of the Saudi dissident Salman al Awda into Saudi Arabia. After beginning the broadcasts, Iraqi intelligence officers and bin Laden also agreed to “perform joint operations against the foreign forces in the Hijaz,” though it is unclear if they actually did so. The relationship ended in 1996 when bin Laden moved to Afghanistan and the Iraqi Intelligence Service lost contact with him.

Arab regimes feared the fallout from Iraqi influence operations and the political narratives the Baathists promoted. By the mid-1990s, local leaders throughout the Middle East began to distance themselves from the United States even as they privately told American officials that they agreed with, and wanted to support, American policies in Iraq. It simply was not politically viable for them to do so. In 1996, the U.S. government wanted to launch strikes against the Iraqi military in response to its move north to intervene in a Kurdish conflict. As a U.S. Air Force officer later lamented, Turkey, Jordan, and Saudi Arabia denied the United States use of their bases to launch coalition strikes, “even though the strikes were already planned and ready for execution.” From that point forward, America’s ability to

operate from places like Saudi Arabia, which was an essential state in the original coalition against Iraq, was severely constrained. Again, the fallout from this breakdown in relations had global implications.

American Frustrations: Drawing a Line from the Gulf War to the Iraq War

The international fallout from the Gulf War also damaged American perceptions of the post-Cold War international system. The United States never fully came to terms with what had occurred in Iraq during the Gulf War. The U.S. Central Command's after-action report for the conflict did not mention the damage the war inflicted on Iraqi society. Likewise, the U.S. Department of Defense's 500-page final report to Congress glossed over the destruction the war left in its wake.

The most influential report on the conflict was the *Gulf War Air Power Survey*, which brought together leading experts in government, the military, and academia to produce a definitive five-volume study totaling over 3,000 pages. Despite its recognition of wide-scale damage to Iraq's infrastructure and the resulting suffering of the Iraqi population — including tens of thousands dead — the survey ultimately concluded that the “strategic air campaign had not only been precise, efficient, and legal but had resulted in very few [direct] civilian casualties.” The *Gulf War Air Power Survey* had a tremendous effect on the way American leaders understood the war. Yet, the notion that the war was fought, as the survey argued, with “a strategy designed to cripple Iraq's military without laying waste to the country” did not reflect the sentiment on the ground in Iraq or in foreign capitals.

One can easily see how official narratives that papered over the humanitarian crisis in Iraq led to political missteps and reinforced perceptions of American callousness. Perhaps most infamously, in 1996, Albright was asked on the television show *60 Minutes* whether “the price was worth it” when a “half million children have died” in Iraq because of U.S. policy. She responded, “I think this is a very hard choice, but the price — we think the price is worth it.” Albright later stated that she regretted the comment. Nevertheless, her words reflected a genuine sentiment that was increasingly isolating the United States from the rest of the international community.

Members of the Baath Party attempted to exploit America's blind spot with regard to Iraqi suffering. As Aziz predicted, Iraqi Baathists were not successful in influencing the U.S. government directly. Although they targeted members of Congress and politicians such as the former Republican presidential candidate, Patrick Buchanan and the former Democratic presidential candidate Gary Hart, there is little evidence that those efforts were effective. The Baathists had more success organizing an indirect campaign to influence the broader political conversation in the country. They identified journalists who were sympathetic to Iraq's plight and critical of American policy and who could reach large American audiences. Then, Baathists operating in America fed these journalists stories or brought them to Iraq, where they received privileged access to Iraqi officials and, in one case, even an opportunity to interview Saddam.

Baathist cells in the United States also organized high-profile demonstrations against American policy and worked with local activists from organizations as disparate as the Green Party and the Young Women's Christian Association and who shared the goal of ending sanctions against Iraq. Iraqi Baathists were able to work through these sympathetic organizations to reach wider audiences. For example, they coordinated with a organization based in Germany and the United States called the Committee to Save the Children of Iraq, which published and distributed materials on the plight of Iraqi children. Through this organization, the Baathists drew in unsuspecting but influential voices that had little sympathy for Iraq's regime but were appalled by the humanitarian situation there. In 1993, the boxer Muhammad Ali held a \$50-a-plate fundraising dinner for 200 people, with all proceeds going to the Committee to Save the Children of Iraq. The Iraqi regime also succeeded in openly recruiting prominent activists. Louis Farrakhan, who headed the Nation of Islam and had considerable influence among some sectors of the African-American community, visited Iraq several times in the 1990s. In 1995, he was appointed as a member of the board of the Baghdad-based, regime-sponsored Popular Islamic Conference Organization and openly campaigned on behalf of the Iraqi regime.

Baathist operations helped to shift political narratives about Iraq in the United States. The changing mood was perhaps most evident in 1998 when *CNN* hosted Clinton's national security adviser, Sandy Berger, Secretary of Defense William Cohen, and Albright at Ohio State University for a televised town hall on the administration's Iraq policy. Much of the audience was openly hostile to U.S. policy, and the



large, raucous crowd repeatedly interrupted the speakers. Members of the crowd shouted down points they did not like and frustrated the administration officials by accusing Clinton of trying to “send a message” to Saddam “with the blood of Iraqi men, women and children.”

Despite this political pushback, some scholars have argued that, in terms of material effects, the U.S. policy to contain Iraq in the 1990s was a success. As evidence for their claims, proponents of such arguments highlight the fact that Iraq remained a poor country, with little economic or military means at its disposal. Moreover, although the United States did not know it at the time, Iraq did give up its weapons of mass destruction and closed the programs that produced them. However, such arguments focus on Iraqi material means and assume that they were necessary for Saddam to achieve his objectives. Yet, Saddam’s strategy was to end the sanctions regime and normalize Iraq’s diplomatic situation in order to rebuild more traditional means of hard power. By the end of the decade, he was clearly making progress toward those goals, despite his material constraints.

The system designed to restrain him was falling apart. In 1998, Saddam violated the Gulf War ceasefire agreement by ending U.N. weapons inspections. The United States and the United Kingdom launched air strikes in response, but, by that point, the international community was too divided and lacked the power to force Iraq back into compliance. Saddam was growing richer from corruption in the modified version of the oil-for-food program that the Security Council had endorsed in 1995 and that, as previously mentioned, he finally accepted in 1996. He was gradually normalizing Iraq’s diplomatic and economic situation while unabashedly flouting U.N. resolutions. In July 2001, the British Joint Intelligence Council described Saddam as “defiant” and “secure.” It argued that “Saddam judges his position to be the strongest since the Gulf War.”

As a result, American policymakers grew increasingly frustrated. In March 2000, U.S. Senate hearings on Iraqi sanctions showed clear bipartisan disillusionment with the United Nations as well as the trans-Atlantic alliance that was supposed to underpin the post-Cold War system. Then-Sen. Joseph Biden argued that “Saddam is the problem.” However, Biden elaborated, “it is clear, on the part of the French and others, they would rather essentially normalize the relationship.” Assistant Secretary of State for Near Eastern Affairs Edward Walker clarified, noting that “the perception” that sanctions were “responsible for the problems that the Iraqi people face” eroded the ability to enforce them. Biden agreed, adding, “I guess maybe that is what is wrong with the U.N.” In the United States, as elsewhere, the unresolved situation in Iraq gnawed away not only at bilateral relations between individual states but also at trust in the post-Cold War system as a whole. This became unmistakably clear following the Sept. 11, 2001 attacks, when the administration of President George W. Bush began pushing for a more aggressive strategy to implement regime change in Iraq.

When Bush first came to office in January 2001, he adopted Clinton’s policy on Iraq: His administration was officially committed to regime change, but not inclined to carry it out militarily. The September 11 attacks created new possibilities to rally domestic support for more muscular strategies to pursue regime change. Although the resulting war later turned divisive, it initially enjoyed wide, bipartisan support among policymakers in Washington. Hillary Clinton voted to authorize the war along with a majority of Democratic senators. Albright later wrote that she found herself nodding in agreement when Bush made the case for war.

Such sentiments were not shared internationally. The Gulf War was supposed to cement America’s role as the organizer of the international system. By the time of the Iraq War in 2003, the tables had turned. Instead of “Iraq against the world,” as George H. W. Bush had argued in 1990, it was the United States against the world. Even stalwart allies like Canada refused to participate. Those international leaders who joined Bush’s campaign in Iraq, among them Blair and Spanish Prime Minister José María Aznar, often paid a significant political price.

The 2003 diplomatic crisis over Iraq stemmed from a breakdown in the international system. In the early 1990s, George H. W. Bush’s new world order offered hope for compromise and cooperation. For example, while disagreements over Iraq’s humanitarian situation at the Security Council were heated in the summer of 1991, member states accepted one another’s good intentions and were willing to compromise. They continued to work together to solve international problems, including in Iraq. By the early 2000s, the Iraq issue had embittered these relationships to the point that each side assumed the other

was working in bad faith. Washington felt that Russian and European leaders were undermining world order in favor of their pocketbooks and a knee-jerk anti-Americanism. European governments felt the United States only paid lip service to U.N. resolutions and only when they aligned with American objectives. They accused Washington of pushing regime change in Baghdad, something the United Nations had not authorized, and insisting that foreign leaders blindly follow American dictates. No compromise was possible. George W. Bush repeated many of the arguments his father had made about history and world order, but the younger Bush's words fell on deaf ears.

Some liberal theorists of the post-Cold War international order overestimated the system's robustness and underestimated the George W. Bush administration's ability to act outside of it in instances such as the Iraq War. The frailness of the system in 2003 can be explained, at least in part, by the fact that American disillusionment with the United Nations and the international system more generally had been growing steadily since — and to some extent, as a consequence of — the Gulf War. This disenchantment and cynicism propelled the George W. Bush administration's war plan forward in the face of strong international opposition and without a U.N. resolution.

However, these frustrations were not new. Nor were they unique to the George W. Bush administration. As Bush's national security adviser, Condoleezza Rice, argued, "we invaded Iraq because we believed we had run out of other options. The sanctions were not working, the inspections were unsatisfactory, and we could not get Saddam to leave by other means." These were all issues that the United States faced in the early 1990s and had the opportunity to resolve at that time. Left unaddressed, they had plagued U.S. diplomacy ever since. The problematic American policies on Iraq clearly predated the George W. Bush administration. In fact, the official, legal justification for the 2003 invasion rested on U.N. resolutions passed during the Gulf War. Thus, the Bush administration made the case that it was simply carrying out the policies it had inherited.

The unresolved dilemmas that the Gulf War created were mismanaged for a decade, eventually leading to a 2003 conflict that was waged on shaky legal grounds and with limited outside support. This war quickly descended into a quagmire that cost thousands of lives and trillions of dollars. As of this writing in 2021, American forces are still fighting insurgents who emerged in Iraq following the overthrow of Saddam's regime in 2003.

Conclusion

Predicting the second- and third-order effects of complex political endeavors such as war and diplomacy is notoriously difficult. However, that is no excuse for ignoring the consequences 30 years later. In fact, such post-hoc critical analysis is vital for learning the right lessons from the Gulf War and its aftermath. The United States could have been more cautious during the war, more clear-eyed about the damage that it inflicted, and more committed to alleviating the resulting humanitarian crisis. Most of all, to create a cooperative international system, America needed to be more willing to compromise with its allies. In doing so, it could have been better equipped diplomatically to build and solidify the new world order whose creation George H. W. Bush claimed was one of the Gulf War's primary objectives.

Instead, the fallout from the Gulf War almost immediately divided the international community and challenged U.S. leadership. The United States failed more than once to seize opportunities to change course when they arose. It is impossible to know whether a post-Cold War international system based on collective security, liberalism, and the rule of law was even possible. Scholars cannot replay history to know how events may have unfolded if the war had been conducted differently or the United States had based its post-war strategies on a more realistic assessment of the possibilities in Iraq. Likewise, it is impossible to know the extent to which disagreements over Iraq divided the international community or whether Iraq simply aggravated differences that would have arisen anyway. Nevertheless, in hindsight, the war and its aftermath clearly damaged, rather than facilitated, the work of statesmen and diplomats in their attempts to build a liberal post-Cold War international system or even to pursue American interests more generally. In that sense, the war generated considerable political costs. It was far from the clean, decisive conflict that American narratives depict.

[The Gulf War's Afterlife: Dilemmas, Missed Opportunities, and the Post-Cold War Order Undone - Texas National Security Review \(tnsr.org\)](https://tnsr.org/article/the-gulf-war-s-afterlife-dilemmas-missed-opportunities-and-the-post-cold-war-order-undone)



How Business Leaders Can Prepare for the Next Health Crisis

(*Harvard Business Review* 15 Feb 21) ... Robert Handfield, Peter Guinto and USAF Maj. Joseph Finkenstadt, NPS Graduate School of Defense Management Assistant Professor

The shortages of personal protective equipment (PPE) and other critical health and safety material and equipment that have persisted throughout the Covid-19 pandemic have made one thing clear: Large organizations of all kinds need to be much better prepared to operate when future devastating emergencies strike. The ultimate remedy is a radically cooperative, proactive approach to securing these supplies.

The strategies we suggest in this article can reduce organizations' vulnerability across a whole range of threats, from the next pandemic to bioterrorism to cyber or infrastructure attacks. Our advice stems from two sources: our involvement in the U.S. Supply Chain Task Force's efforts to understand the causes of the nationwide shortages of PPE and other health care supplies in early 2020, and our ongoing work in this domain with federal legislators.

The shortages were a shock to many organizations and the country as a whole and are still a problem. They impacted operations throughout the private and public sector and even affected the power grid: In the spring of 2020, there were electrical blackouts in the midwestern United States because of PPE shortages.

To ensure adequate supplies of PPE and other critical items such as facility safety equipment (e.g., plexiglass sheeting, temporary facilities to quarantine people, air filtration systems), fuel, generators, water, and communications technology when a crisis strikes, organizations should adopt a strategy of shared self-sufficiency. It calls for organizations to look inward and make significant improvements in their ability to anticipate and respond to health emergencies, as well as outward by joining or forming networks of entities that will proactively secure critical supplies.

As a number of HBR articles have pointed out, the pandemic exposed serious flaws in many companies' supply-chain preparedness and demonstrated the necessity of detecting and responding to "novel" risks, mapping supply networks, and establishing multiple sources. Other articles have showed how to aim mitigation efforts at the most important suppliers and risk areas.

What sets our work apart are two things: 1) Our focus on critical emergency resources for allowing organizations of all kinds to continue running and to keep their people and communities safe in a crisis, and 2) our call for organizations to strive to achieve "immunity," which is a step beyond conventional continuity planning.

We define four levels of preparedness to maintain continuity in the face of health crises. The first three represent different combinations of degrees of two dimensions: responsiveness and awareness. Responsiveness describes the adequacy of an organization's plan for a crisis and how quickly the plan can be put into action. Awareness is an organization's knowledge level about its supply chain and the risks of disruption. Level 4 of preparedness, which we call "immune," involves a high degree of interconnectedness among organizations, both vertically and horizontally, as well as an ability to sense disruptions in the network through informed intelligence sources.

While it is not reasonable to expect all organizations to be able to rapidly attain an immune state, they should be taking actions to become more resilient (through stockpiling) and more responsive (by being able to more quickly mobilize resources).

Level 1 — Reactive

Organizations at this level lack both responsiveness and awareness. They don't do advance planning for health emergencies. They don't think about what supplies they might need or how they might procure them in a crisis. When an emergency occurs, panic ensues, and the procurement staff starts searching the internet or sending out hastily written requests for proposals (RFPs). On the awareness front, they do little tracking or monitoring of market conditions for critical supplies, much less scan for external global events

that might lead to shortages. Often, they are hampered by outdated IT infrastructures, inadequate staffing, or a lack of expertise.

Many public-sector organizations are at the reactive level. Unfortunately, these include some of the federal offices on the front lines of the pandemic response. The Strategic National Stockpile's budgetary limits contributed to its being unable to plan, train people, or make timely decisions, and it was incapable of acquiring dependable, real-time information about disease outbreaks or the status of supplies.

Level 1 also includes many small, rural electric utilities. Most had never considered PPE or social distancing as critical operational needs for business continuity. And in any case, many operate under budget constraints, which left them without access to expertise in virus testing, PPE, and cleaning techniques and contributed to an inability to see deeply into PPE supply chains. A national utility association told the federal task force about at least one instance in the U.S. Midwest where mission-control spaces were contaminated by infected employees, resulting in the shutdown of a critical generation unit. The association cited several other situations in which the continuous supply of power was threatened. A separate association of utilities, also in the Midwest, told members of the task force, "It has become very difficult to source many critical [health] supplies and has already led to several blackouts in the region."

Similar problems led to widely reported shutdowns in the meat-processing industry during April 2020. Covid-19 broke out among employees who were working in close proximity without proper protective equipment, forcing closures of major facilities in South Dakota, Iowa, and North Carolina. This resulted in shortages of certain cuts of meat at many retail locations.

Given that budgets for preparedness are often an obstacle, organizations at the reactive level need to identify the most cost-effective means for rapidly improving preparedness. The best approach is to focus on responsiveness — that's where the biggest impact can be had for the least investment.

To improve responsiveness, companies should initiate planning for pandemics and other emergencies. This means taking the following steps:

Establish a cross-functional crisis response team to create and continually update contingency plans. The team should include people from security operations, emergency management, supply chain management, inventory and warehouse management, IT, legal, finance, audit, and quality. To avoid bombarding employees with conflicting messages from different sources, one person should be put in charge of communications.

In consultation with the organization's top leaders, the team should develop a playbook that clearly defines roles and accountabilities during a crisis. The team should organize scenario planning, simulations, and training. Remember that the most critical employees may not be the most high-ranking: They might include the sanitation, security, and IT staff that everyone must rely on in an emergency. The crisis response team's playbook should feature deployment plans for the entire workforce, and the plans should be tested and updated periodically.

Give the crisis response team the power it needs to act quickly. It should have a direct line to top management and the autonomy to rapidly enact emergency sourcing procedures as soon as the organization declares an emergency.

Stockpile enough PPE and critical materials to cover the most essential employees for at least two weeks, which should be (barely) enough time to get the organization's PPE supply chain moving. Some manufacturing companies have acquired six months' worth of supplies. If you are carrying a lot of inventory, be sure to check expiration dates and rotate stock.

Make funds available for emergency actions. In a crisis, ready cash may be a necessity. In the spring of 2020, many organizations faced a cash-flow crunch when health equipment suppliers started requiring customers to pay for orders in advance. Most state agencies don't allow pre-payments, so procurement officers had to obtain emergency approval for funds to pay anywhere from 50% to 100% of the cost of the order upfront.

Decide which areas of the business are critical for maintaining operations. In addition, create a clear prioritization of the order in which functions should receive things like PPE, Covid-19 tests, and vaccines. Remember that the people who manage and distribute PPE also need PPE, and that we need to vaccinate the vaccinators.

Level 2 — Responsive

Organizations at this level have robust capabilities for responding to health emergencies. The state of Utah, for example, was able to move quickly and effectively in securing PPE because state officials gave the chief procurement officer autonomy to act in the emergency. This official functioned as the central authority for all purchasing of PPE for the entire state and had a direct line of communication with the governor's office, which allowed him to quickly obtain approval of funds to make the purchases.

The organizations in this category still have relatively low awareness. Although they may do some risk analysis to identify supply-chain weaknesses, they are unable to truly see what is happening in key supply markets for PPE or determine where problems may arise.

An example of a highly responsive organization is the American Red Cross (ARC), which is the result of changes it made after Hurricane Maria shut down its only supplier of blood bags in Puerto Rico in September 2017. Since then it has had a Supplier Risk Management Council and a set of supplier-risk policies and procedures in place. ARC invested in a risk-monitoring-and-alert platform that informed it of supply disruptions that would impact its operations and global events (e.g., hurricanes, floods) that were shutting down critical suppliers.

Those efforts meant that ARC was better prepared when the Covid-19 pandemic struck. On February 7, 2020, less than three weeks after the Centers for Disease and Control reported the first confirmed case of the novel coronavirus in the United States, ARC's supply-chain staff received alerts that a PPE shortage was imminent, and ARC bought more than three months' worth of supplies, including gloves, hand sanitizer, and disinfecting products. As a result, the organization experienced no shortages of PPE during the critical early months of the pandemic in February through June 2020 and has contracts that guarantee distributors will provide it with two years' worth of supply of PPE.

To improve awareness, companies should take the following steps:

Deploy supply-risk tools to identify, manage, monitor, and mitigate supply risks that could impact operations. Examples include monitoring and alert systems (which third-party services can provide), plans for mitigating and responding to supplier risks, and the formation of a cross-functional senior executive council that is regularly briefed on the likelihood and potential costs of disruptive events and can order the actions needed to address them.

Determine what equipment the organization would need in an emergency. We found that only a small sliver of private firms and public agencies realized how much PPE they truly needed to get them through the early stages of the pandemic.

Ensure that the crisis response team stays current on governmental and regulatory requirements. During 2020, the U.S. Food and Drug Administration (FDA) changed its list of approved N95 masks several times throughout the year. Many states contracted with suppliers of masks and then had to "claw back" their funds once they learned that the FDA had removed certain masks from its list. Separately, when the FDA or the National Institute for Occupational Safety and Health (NIOSH) issues an Emergency Use Authorization edict for something to be used, buyers of those items need to stay abreast of updates to ensure they are still okay to use.

Seek market intelligence on supply risks from multiple sources. They could include discussions with your organization's field representatives (e.g., sales reps, supply managers, auditors), news media, social media, state and federal emergency centers, public notification systems (such as the CDC Health Alert Network), and commercial supply-chain risk-monitoring services. The use of multiple sources can help the organization validate the intelligence it receives.

Make sure that the crisis response team is fully aware of funding options for actions that might be deemed necessary in an emergency. This means having up-to-date information on equipment prices, the company's budgets, and who is authorized to approve funds and new purchase orders so the team can quickly respond to supply opportunities.

Level 3 — Resilient

Organizations in this group have robust levels of awareness but often are large and lumbering and struggle to mobilize resources quickly when a crisis suddenly occurs. To overcome this mobilization problem, companies should take the following actions:

Map your supply chains. The goal is to identify critical suppliers and their capabilities and potential bottlenecks.

Establish redundancies and stockpiles. They will buffer operations from disruptions.

Establish contingency spending plans. In addition, ensure that funds can be accessed quickly.

Train employees to handle crises. They must be equipped to plan for, overcome, and adapt to supply-chain disruptions.

Set up crisis response teams. They should be able to operate remotely, deploy “fire-drill” response exercises, and provide the firm’s leaders with evaluations of these exercises.

Structure purchase contracts to ensure that they can access emergency supplies, often at pre-determined prices. In addition, create expedited review and approval processes for contracts and agreements.

An example of a resilient company that was prepared for the pandemic is General Motors. Its experience with the Japanese tsunami in 2011 taught it an important lesson: Tier 2 and 3 suppliers (your suppliers’ suppliers and their suppliers) can shut down your entire production network. Since that time, GM has had a robust supply-risk-planning function. Through its manufacturing sites in China, the automaker became aware of the early spread of Covid-19. Using its quality-assurance engineers in China, GM quickly vetted a number of PPE suppliers. (For example, one of its criteria for assessing vendors’ ability to deliver N95 masks was their access to the special non-woven fabric needed to produce them.) The company then arranged to have the masks shipped to its manufacturing sites the United States and other countries.

Level 4 — Immunity

To achieve immunity from shortages of critical health and safety material and equipment that could disrupt their operations, organizations must join forces with others to transparently share information on shortages and share supplies of these critical goods. Firms at this level recognize that the entire supply network has to function to preserve the ongoing operations of all of its members. These networks operate both vertically and horizontally:

Vertical. A company should work with its suppliers and distributors to ensure that the entire supply chain is prepared for emergencies by sharing information and securing PPE supplies for key partners in the network. Ideally, a company should contractually require its suppliers and distributors to maintain their own crisis response teams, and companies in the network should conduct joint “war-gaming” exercises to test their readiness to handle a crisis. The after-action report can produce valuable insights that can be applied when a real event occurs.

It is important to recognize that distributors of PPE and other critical health and safety items are not necessarily a dependable source; they are only as good as their relationships with manufacturers. (During the pandemic, many distributors and group purchasing organizations, including the largest ones, proved unable to supply their customers.) Therefore, a company should forge contractual relationships with manufacturers that ensure that it and the members of its supply chain will be able to obtain adequate supplies of health and safety items when a crisis occurs. Immune companies should regularly communicate with these producers during a crisis, monitor them to make sure they are functioning okay, and disburse funds if necessary. When nurtured over time, such relationships can provide preferred access to reliable supplies of PPE and other critical health and safety supplies when a calamity strikes.

Horizontal. Organizations that provide essential supplies like food, medical care, and utilities should form mutual-aid agreements with competitors. The airline industry currently does this on an informal basis: An airline will supply critical aircraft parts from its inventories to help another, knowing that it might need similar help someday.

During surges in the pandemic, hospitals within some states pooled their ventilators (New York mandated it), and hospitals in some states exchanged ventilators with those in other states as the

number of new cases subsided in one region and surged in another. The federal government is considering legislation that would create pooled information on the availability of PPE and key medicines, which could help allocate them more efficiently to the areas of the country that need them the most during a crisis like a pandemic.

Corporations and public agencies should make similar arrangements by negotiating contracts for pooling resources — including information on supplies — to support the industry as a whole. The contracts should establish a council of representatives from organizations that consume and distribute PPE to determine how assistance is triggered, requested, and prioritized. Such agreements, including the information transparency that they would mandate, would help prevent panic hoarding.

Once an emergency is declared, every organization in the mutual-aid network must be able to see not only where supplies are located but also what each organization's priority needs. It may be necessary for state or federal regulations to require this level of transparency. (Pending federal legislation would create a national "control tower" that would share information on state-level allocations of vaccines and PPE.)

Such arrangements could help the public and private sectors work together to address shortages during a crisis. General Motors' role in helping hospitals obtain PPE during the early months of the pandemic illustrates the value of such collaboration. In March 2020, GM learned that hospitals in Michigan were running out of PPE. Ron Mills, GM's director of global business solutions, shared his PPE contacts with the state and made calls to ensure that the state procurement office in could contract with the Chinese manufacturers. And when limited flights from the Shanghai airport became a bottleneck, GM coordinated an alternative logistics arrangement: sending the PPE by boat to South Korea, where it was shipped by air to North America and trucked to Michigan.

One company that appears to have achieved "immunity" status is Flex, the global contract manufacturer. When the company heard rumors in January 2020 that the Chinese government might order factories to remain closed after the Chinese New Year holiday, the company, which has manufacturing units in China, acted quickly not only to secure PPE for itself but also to ensure that its suppliers across the value chain were well stocked. (These same suppliers provided services to Flex's competitors as well, so these actions helped support the entire ecosystem for electronics.)

The manager of Flex's Suzhou and Shanghai plants provided his immediate suppliers with masks, cleaning supplies, and sanitation training manuals, according to The Washington Post. Several Flex suppliers shared their knowledge of PPE providers that could supply materials to some of Flex's facilities in the area. Quality engineers from Flex met with key suppliers to create pandemic plans. Production schedules were shifted to avoid bottlenecks at sites that were likely to shut down due to stay-at-home government mandates. This was facilitated by the company's Flex Pulse systems, which identifies which products can be produced at different facilities and monitors all materials in motion in real time.

A Shift in Thinking

In the pre-pandemic world, the detailed planning and management of PPE and other health and safety goods didn't seem essential. But in the wake of the disruptions caused by Covid-19, there is now a broad recognition by organizations throughout the economy that such supplies are critical. Organizations should ascertain their current state of preparedness to withstand another shock and take steps to become increasingly more resilient. Their end goal should be to become immune so they can withstand the next crisis.

[How Business Leaders Can Prepare for the Next Health Crisis \(hbr.org\)](https://hbr.org/2020/04/how-business-leaders-can-prepare-for-the-next-health-crisis/)

[Return to Index](#)



ALUMNI:

Meet the RCCTO Engineers delivering rapid prototypes to drive Army modernization

(Redstone Rocket 10 Feb 21) ... Claire Heininger and Nancy Jones-Bonbrest

The Army Rapid Capabilities and Critical Technologies Office is delivering numerous Army “firsts” – including the prototype long range hypersonic weapon, combat-capable lasers, and a ground-launched mid-range fires capability using Navy missiles.

But being first also means not being perfect – which for an engineer, can mean a whole new way of thinking. The RCCTO capabilities aren’t aiming to be the enduring Army solutions, but instead experimental prototypes with residual combat capability – something that bridges the “valley of death” between science and technology and programs of record. They give Soldiers a system they can use on the battlefield and give the Army important information to shape future decisions.

Executed on an accelerated schedule, the delivery of these prototypes requires the RCCTO – which reports to an Army Board of Directors comprised of Army senior leadership – to work closely with other organizations such as the Army Futures Command, the Program Executive Offices, and numerous joint partners.

For the RCCTO’s engineers, it’s not a typical framework, yet they are embracing it. Simply put, the team of experts for each prototype – engineers included – move with the program. Starting with the science and technology community, the teams for hypersonics, directed energy, and mid-range capability moved to the RCCTO and with them came the knowledge, background and familiarity that is only developed from years of working on these capabilities. And much like in the commercial world, these matrixed teams can aggregate or de-aggregate based on what phase the mission is in. For example, when systems eventually transition out of the RCCTO prototype phase and into a PEO, the team will change once again. And like before, the knowledge, background and familiarity moves with them.

The effort requires teamwork, innovation, and a willingness to accept change. But for the RCCTO selected team of engineers, this is an opportunity to work on a completely new capability that could change the modern battlefield.

Below, we highlight a few RCCTO engineers who fit that mold and who explain, in their own words, their role in making the leap from the science and technology world into delivering a new capability for Soldiers on the battlefield, putting their own stamp on Army modernization.

Army Hypersonic Project Office

Name/Title: Carolyn Farmer, Army Hypersonic Project Office, All Up Round + Canister, Deputy Project Manager

Project Office Focus: The AHPO is prototyping a land-based Long Range Hypersonic Weapon that will deliver residual combat capability to Soldiers by Fiscal Year 2023. The AUR+C team within AHPO is closely aligned with the Navy, as they jointly deliver a common AUR, coupled with a unique Army canister, to support the fielding of the LRHW.

Path to RCCTO: Farmer started her civilian career one month after the tragedies of 9/11/2001, supporting the Army’s DEVCOM - Aviation and Missile Center in the Reliability Engineering field. Here, she led Army and foreign military sales customer reliability programs and traveled the world to support various aviation and missile systems. After graduating from the **Naval Postgraduate School**, she took the advice of senior mentors and looked for opportunities in hypersonics, which led her to the RCCTO. “I’ve had a series of tremendous mentors throughout my career who challenged me to be comfortable with the uncomfortable,” Farmer said.

Current Job: As the AUR+C DPM, Farmer supports the unique teaming effort with the Navy, which is critical as they align resource management, contracting and acquisition, design, supply chain management, production, testing, logistics, schedules, safety, and more.

How This is Unique: “As an engineer, there is a desire to capture copious amounts of data and strive for continuous improvements and perfection,” Farmer said. Switching to delivering Soldiers experimental prototypes with residual combat capability, at an unprecedented pace, is wildly different from anything she’s ever been a part of before.



Achievement She's Most Proud Of: Being part of her family's realization of the 'American Dream.' Farmer's parents and sisters immigrated to America in 1978. Her father, a South Vietnamese Naval officer who worked alongside the U.S. Navy during the Vietnam War, was a prisoner-of-war after the fall of Saigon. He fled the country with his family, eventually making a home in Huntsville, where Farmer was born. "My family is proof that America is truly the land of opportunity where anything is possible," Farmer said.

What's Next: With the Critical Design Reviews complete, the team is now focused on refining the design, preparing for upcoming joint flight campaign test events, and delivery of training canisters to the field to execute a logistics demonstration for loading, handling, storage and inspection of the AUR+C.

Why Engineering: Both of Farmer's sisters are engineers, so it's in her blood. "My technical foundation as a mechanical engineer, coupled with my NPS Masters in Program Management, provided me with a solid framework to apply my strengths and make a difference in how we deliver products to Soldiers," Farmer said.

What People Might Not Know: Growing up, she was a trained ballet dancer and a member of the Auburn University Tiger Paws Dance Team. She's now a mom to two spunky kids and her husband of 20 years is also an Army civilian. It's full-time, joint program management at home and at work.

Takeaways: "It's evident that when we take care of our people, they will move mountains to take care of the mission."

[Meet the RCCTO Engineers delivering rapid prototypes to drive Army modernization | Special Reports | theredstonerocket.com](#)

[Return to Index](#)

Navy Commander Victor Glover Jr. Makes "Small Step for Man, One Giant Leap for Mankind"

(Orlando Times 12 Feb 21) ... Jalessa Neal

"That's one small step for man, one giant leap for mankind." These iconic words mark a moment in American history amid the space race. Now, history is being made in space once again. Commander Victor Glover Jr. makes history as the 1st African American astronaut to have a prolonged stay on the International Space Station.

According to CNN, astronauts Mike Hopkins and Victor Glover Jr. conducted a spacewalk last Wednesday to upgrade and maintain the International Space Station. It was the first spacewalk experience for Glover, who is a few months into his first spaceflight on the station.

"What a beautiful view," Glover, 44, said after he began the spacewalk.

Glover's biography on NASA's website explains that he was born in Pomona, California. His mother lives in southern California, and his father and stepmother live in Prosper, Texas. He graduated from Ontario High School in 1994 before earning his Bachelor of Science in General Engineering at California Polytechnic State University. He would go on to get his Master of Science in Flight Test Engineering (USAF TPS) from Air University, Edwards Air Force Base in 2007; Master of Science in Systems Engineering (PD-21) from **Naval Postgraduate School** in 2009; and his Master of Military Operational Art and Science from Air University, Montgomery, Alabama in 2010.

He and his wife, Dionna, were married in 2002 and they have four daughters. As a Naval Aviator, he and his family have been stationed in many locations in the United States and Japan and he has deployed in combat and peacetime.

"Of course I'm excited, but it's also a little scary," Dionna Glover told the Christian Chronicle before Victor's takeoff. "I'm nervous. I'm excited for him. I have Scriptures that I'm reading regularly to try to remind myself not to worry and not to stress."

Glover is currently serving as a pilot and second-in-command on the Crew-1 SpaceX Crew Dragon, named Resilience, which launched November 15, 2020. He will also serve as Flight Engineer on the International Space Station for Expedition 64.



According to NASA, following commissioning Glover began preflight training in Pensacola, Florida, and completed his advanced flight training in Kingsville, Texas, earning his wings of gold on December 14, 2001. In 2002, Glover reported to the Marine Fleet Replacement Squadron, VMFAT-101. In 2003, he was assigned to the Blue Blasters of Strike Fighter Squadron VFA-34. While deployed, he completed a Space Systems Certificate from the Naval Postgraduate School (NPS). Glover was then selected as the United States Navy's exchange pilot to attend the Air Force Test Pilot School. During the one-year experimental test piloting course, he flew more than 30 aircrafts in the U.S. and Italy.

In 2009, Glover received orders to the Air Command and Staff College at Maxwell Air Force Base, Alabama. Following graduation, Glover reported to the Dambusters of Strike Fighter Squadron VFA-195, in Japan, where he served as a Department Head. In 2012, Glover was selected for the Legislative Fellowship. He reported to the Office of Legislative Affairs in Washington, D.C., and was assigned to the office of a U.S. Senator. While in Washington D.C., he completed a Certificate in Legislative Studies at Georgetown University. Glover was a Legislative Fellow in the U.S. Senate when selected as an astronaut candidate.

Glover was selected in 2013 as one of eight members of the 21st NASA astronaut class. In 2015, he completed Astronaut Candidate Training, including scientific and technical briefings, intensive instruction in International Space Station systems, spacewalks, robotics, physiological training, T-38 flight training and water and wilderness survival training.

The spacewalk last week officially began at 6:28 a.m. and it lasted for about six hours and 56 minutes.

According to CNN, the astronauts focused on progress with the installation of Bartolomeo, the newest payload hosting station outside the European Space Agency's Columbus module. They worked on antenna and cable rigging to hook up power and data connections.

The two astronauts joked after five hours that they wished they could go to the space station's airlock and pop in for some "snacks and bacon."

Glover has received various recognitions over the years including Ontario High School 1994 athlete of the year; Distinguished Graduate and Regimental Commander, U.S. Navy Officer Candidate School; Named one of Jet Magazine's inaugural 40 under 40 in 2013; among others. His Military decorations include a Navy Commendation Medal and two Navy and Marine Corps Achievement Medals.

He is also a member of Phi Beta Sigma Fraternity, Inc.; Society of Experimental Test Pilots; National Society of Black Engineers; International Council on Systems Engineering (INCOSE); and others.

In addition to Hopkins and Glover, NASA astronauts Shannon Walker and Kate Rubins, Japan Aerospace Exploration Agency astronaut Soichi Noguchi, as well as Russian cosmonauts Sergey Ryzhikov and Sergey Kud-Sverchkov are all on the station.

There are more spacewalks planned for the crew near the end of the month and beginning in March. "I think it's important that America's space program represent the best of America," said Glover during an interview on the Today Show. "For little kids to see someone who looks like them, that is super important to me."

[Victor Glover Jr \(orlando-times.com\)](http://orlando-times.com)

[Return to Index](#)

Beacon Global Strategies Expands by Adding Four National Security Professionals to Growing Team

(PR Newswire 11 Feb 21)

(WFMZ News 11 Feb 21)

Today Beacon Global Strategies (BGS), a leading strategic advisory firm focusing on global public policy, government procurement, and geopolitical risk analysis, announced four new members to its growing team. Mr. Barry King, The Honorable Kari Bingen, Lieutenant General VeraLinn "Dash" Jamieson (Ret.) and Vice Admiral T.J. White (Ret.) will bring further depth and breadth to Beacon's



market leading practices helping companies navigate national security decisionmaking and emerging trends for disruptive technologies.

"The definition of national security has expanded to encompass a wide array of policy, regulatory, and acquisition challenges and opportunities facing American companies," said Jeremy Bash, a Co-Founder and Managing Director at BGS. "We are thrilled to welcome these accomplished individuals and look forward to the value they will add to our team. We are confident these additions will enhance our company as we continue to grow and offer exceptional service."

These individuals join Beacon's cadre of professionals, led by Co-Founders and Managing Directors, Michael Allen, Jeremy Bash, and Andrew Shapiro, Chief Operating Officer Kristin White, and Senior Counselors Secretary Leon Panetta and Michael Morell.

Barry King joins BGS as Vice President.

Prior to joining Beacon, Barry served as the Intelligence Community Deputy Chief Financial Officer at the Office of the Director of National Intelligence (ODNI). In this role he was a top advisor to the Director of National Intelligence on the allocation of the \$60B+ National Intelligence Program budget against U.S. intelligence priorities, leveraging strong working relationships with colleagues across ODNI, U.S. intelligence agencies, the White House Office of Management and Budget (OMB), and Capitol Hill. Barry previously served in a range of senior White House roles, including as Chief of OMB's Defense Operations, Personnel, and Support Branch, Special Assistant to the OMB Director, and Director of Strategic Planning on the National Security Council staff.

The Honorable Kari A. Bingen joins the BGS Advisory Board.

Kari served most recently as the Deputy Under Secretary of Defense for Intelligence and Security (Deputy USD(I&S)). While serving in this role, she began the realignment of defense intelligence and security investments to address National Defense Strategy priorities, guided the Department's AI/ML pathfinder, and elevated the Department's focus on personnel and industrial security. Prior to her time at DoD, Kari was the Policy Director on the House Armed Services Committee and staff lead for its Strategic Forces subcommittee. She is an Adjunct Assistant Professor at Georgetown University's Center for Security Studies, a non-resident Senior Adviser at the Center for Strategic & International Studies, a member of the Blue Origin Advisory Board, a member of the CalypsoAI National Security Advisory Board, and a member of the Common Mission Project Advisory Board. Kari is a graduate of the Massachusetts Institute of Technology with a degree in Aeronautics and Astronautics, and a 2002 NRO Technology Fellow.

Lieutenant General VeraLinn "Dash" Jamieson (Ret.) joins the BGS Advisory Board.

Dash has 37 years of distinguished military service, having commanded units from the squadron level to a career culminating as the Director of the United States Air Force's Intelligence Surveillance, Reconnaissance and Cyber Effects enterprise, where she was the Air Force's Senior Intelligence Officer. Dash was the driving force behind building a cohesive team of the Air Forces' intelligence and cyber forces into a single war fighting organization: a \$72B entity with 73,000 personnel conducting global operations across the Department of Defense. She earned her Bachelor of Science in Business Administration from West Virginia University, and has two Master's degrees, one in Strategic Studies from the National Defense University-National War College in Washington, DC and one in Aviation Management from Embry-Riddle University, Daytona Beach Florida.

Vice Admiral T.J. White (Ret.) joins the BGS Advisory Board.

T.J. served a distinguished 33-year career in the United States Navy. As a flag officer, he has served as deputy director, Tailored Access Operations, NSA and as director for intelligence, U.S. Pacific Command. He previously served as Commander, Cyber National Mission Force at USCYBERCOM. His last tour was as Commander, U.S. Fleet Cyber Command/U.S. 10th Fleet/U.S. Navy Space Command. He is a 1987 graduate of the United States Naval Academy where he received a Bachelor of Science in Mechanical Engineering. He holds a Master of Science in Systems Technology (Command,



Control and Communications) from the **Naval Postgraduate School** and a Master of Science in National Resource Strategy from the National Defense University-Industrial College of the Armed Forces in Washington, District of Columbia. He is a Massachusetts Institute of Technology Seminar XXI fellow.

About Beacon Global Strategies

Founded in 2013, Beacon Global Strategies is a bipartisan strategic advisory firm that provides clients an in-depth understanding of national security decision-making to advance objectives and solve problems in Washington and abroad. The Beacon team brings experience informed by their years of service in the White House, State Department, Defense Department, CIA, Justice Department, on Capitol Hill, and in the private sector.

[Beacon Global Strategies Expands by Adding Four National Security Professionals to Growing Team \(prnewswire.com\)](#)

[Beacon Global Strategies Expands by Adding Four National Security Professionals to Growing Team | News | wfmz.com](#)

[Return to Index](#)

