



## **Defense Innovation Days 2021 Synopsis of Presentations**

**Day 1 – Monday, 30 August 2021**

**A National Conversation on Defense**

**Senator Jack Reed, Chair, Senate Armed Services Committee**

**Secretary of the Navy Carlos Del Toro**

**Small Business Administration Administrator Isabella Casillas Guzman**

**Senator Jack Reed – China is our main concern; we have the wherewithal to deter their aggression and maintain our dominance.**

- Congress – must be responsible stewards – and must quickly find a balance so that its oversight of DoD does not get in the way of the immediate need to counter the building momentum of the Chinese to dominate international relations, economics, and politics
- US Industrial base collaboration with DoD is vital for national security including economic growth – Advanced manufacturing – domestic manufacturing, technology investment, production, and innovation, along with access to capital will enable US success.
- China is a near-peer competitor, with global ambitions, for global technology, military, economic dominance.
- Unites States’ current innovative advantage in tech, military, and economics, must be nurtured and maintained.
- China intervenes with underhanded and aggressive means to gain military, economic and technological advantage
- US must do more to deter China’s aggression and stop their approach to changing international order.
- List of actions critical to US success:
  - Innovation in next generation manufacturing, rapid prototyping, production, and distribution of technology to warfighters
  - Strengthening public private partnerships – Universities, ONR, DARPA, Industrial participation – small and large businesses. Increase incentives for sharing resources.
  - Invest in technologies for shaping future warfare – robotics, quantum computing, artificial intelligence
  - Catalog and deploy industry, academic, training, and government best practices for development, production, deployment, upgrade, of military use technologies.
  - Impede China’s current political and military moves to dominate Pacific theater.
  - Develop complimentary autonomous undersea capabilities complimenting submarine operations to deter the Chinese threat.
  - Impede China and Russian actions to deny US access to their spheres of influence and deny their access to our spheres of influence.

- Build Columbia Class - vital part of deterrence as China and Russia are embarking on major ship construction projects.
- Augment Columbia class with autonomous and unmanned vehicles, and associated technologies are critical to move US of its current land-based strategies in Mid-East to the current need for sea-based strategies.
- Maintain US as world's technology magnet - Cannot allow China to overtake US and become the new world-magnet for global stem
- Need to attract foreign talent
- Need streamlined methods for citizenship for talented people
- Need hi-Tech, AI and IT experts
- Brainstorm new reforms for the DoD acquisition process.
- Improve Management, economic and business training for DoD acquisition
- Keep small businesses involved in innovative processes
- Maintain our network of UARCS and FFRDC – and link with small businesses
- Keep encouraging small business participation in DoD programs – find ways to alleviate bureaucratic burdens.

**SECNAV Carlos Del Toro - We are moving from a land-based strategy in the Mid-East to a Sea Based strategy in the Pacific and Atlantic with the emergence of China and re-emergence of Russia. The sea-based strategy will require rapid, thoughtful, reprioritization of our investment. SECNAV August 2021 message to fleet; <https://www.navy.mil/Press-Office/Statements/display-statements/Article/2725524/78th-secretary-of-the-navy-message-to-the-fleet/>**

- Undersea Mission and Navy will dominate US Strategies as China emerges as the primary threat to America. Major investments are needed in platforms (Columbia class), autonomy, semi-autonomy, AI, and innovations from major primes and small businesses.
  - China is now a regional threat to national security; threat will grow.
  - China is now an aggressor; Spratly, man-made islands, Taiwan.
  - Other threats include rogue nations, and non-nation terrorist organizations.
  - Climate change is opening Arctic to international competition – China and Russia.
- Cyber Security is vital to assure US Navy dominance – US must make investments to strengthen and protect its cyber infrastructure, but there is a need for balance so that smaller companies can afford to play.
- Responsible stewardship includes assuring skilled workforce, avoiding requirements creep, and maintaining cost, schedule and performance goals.
- US needs integrated cooperative effort among big primes, small business, government organizations, FFRDCs and University labs.
- Government and industry must continue to develop a portfolio of innovative military technology solutions to offset the rapid changing international environment.
- Must be quickly brought to Defense market
- Never forget about respect and accountability for the taxpayer's investment.
- Control costs, schedule and meet performance requirements.

**SBA Administrator– Isabella Casillas Guzman - Small Business Administration is committed to helping build the defense industry of tomorrow – workforce training, innovation, capital investment.**

- Small businesses are vital to a robust defense industry – workforce development, innovative ideas, capital investment, production and manufacturing solutions, collaborative partners.
  - Small Business Administration is committed to help Build the defense industry of tomorrow.

- 11 million small businesses and innovative start-ups are financed by SBA.
- Small businesses are meeting the needs of a new virus marketplace.
- Propel is an example of local RI small business that has stepped up.
- Moderna – Dept of Army collaboration on vaccine is another example of local small business contribution and success.
- Entrepreneurships are vital for national security and defense.
- Complexity of bureaucracy holds some small businesses back.
- We must make it easier for small businesses to engage with larger DOD primes.
- Small business innovation centers are creating opportunities for infrastructure and climate resiliency.
- Small businesses are giants in our economy and helping the US regain manufacturing leadership.

### **A National Conversation on Climate and Defense**

**Senator Sheldon Whitehouse, Senate Environment and Public Works Committee**

**Mr. Joseph Bryan, Special Assistant to the Secretary of Defense (Senior Climate Advisor)**

**Mr. Richard Kidd, Deputy Assistant Secretary for Defense for Energy and Environment**

#### **Senator Sheldon Whitehouse - Good Climate Policy is Good Defense Policy.**

- Addressed the impact of dark political money since 2010 on getting bipartisan support climate change.
- Freddie Mac has forecasted a coastal housing mortgage crisis that would be worse than 2008 due to rising sea levels.
- There is a forecasted carbon bubble that will cause a global economic collapse, which will start with the fossil fuels industry, cascading to other industries and the rest of the economy.
- Insurance industry is concerned because climate negatively impacts the ability to forecast risks.
- There is a whole slew of harm that can come about from Climate.
- The most significant measures in congress now, but it is an incredibly low bar.
- November is the Glasgow Conference, the predecessor to the Paris Climate Conference.
- Climate will directly impact the defense industrial base.
- Defense facilities will be at risk. Particularly Diego Garcia, which is anticipated to disappear if something is not done.
- NAS Norfolk former CO thinks they will have 25 years before major impacts.
- Conflicts are exacerbated by climate issues. Syria, Kashmir, the Artic.
- Operations and training will be impacted. The City of Phoenix needed to rethink how their first responders can work in extreme heat. The Department of Defense is the country's biggest emitter.
- We need to curtail carbon and methane emissions. The carbon tax is an important tool to monetize the solution.
- We also most reduce the subsidies to the fossil fuel industries.
- We also need to promote the slew of renewable energy technologies.
- Nuclear power has a mismatch against the build cost of fossil fuel facilities (when emissions are not considered.)

#### **Mr. Joseph Bryan - Climate issues drive mission demand, and impact how we address these missions.**

- Innovations are a great lens to see the intersection of defense and climate.
- Power and Military capability is impacted by the climate.

- Renewables will account for 90% of new power capabilities globally for the next two years. This is not only because they are clean, but also competitive.
- We must address the climate challenge and compete with the energy capability.
- The Arctic is opening up, causing challenges with Russia and China.
- Drought is causing food insecurity.
- ISIS understands the impact of climate on the Iraqi government and has targeted the Mosul dam.
- Extended drought in the northern triangle counties have driven higher levels of migrants at the US southern border.
- The wildfires out west have caused evacuations of western air force bases.
- Hurricane Ida intensified faster than a typical hurricane. We are still assessing the damage.
- NAS Pensacola is still dealing with \$100M++ of damage from Hurricanes in 2020.
- We pay more every year to repair damage from climate to our military installations.
- Climate change is costing us in resources and readiness.
- Our mission objectives are aligned with addressing climate.
- Resiliency will help to address these objectives.
  - Newport has developed a resilient system.
  - New London is developing a microgrid.
  - Miramar has developed a microgrid, helping the San Diego area save energy grid during a high demand period last year.
- Energy Demand Reduction helps address logistics.
- Operational Energy improvements, improving efficiency, good for the climate, great for the mission.
- The commercial Electric Vehicle industry is critical to the DoD mission. Pres. Biden has made it a priority to electrify the federal fleet.
- Right now China dominates the lithium supply chain. The Navy has several thousands of systems that need lithium. We need the commercial industry to help bring the industry back to the United States.
- We need collaboration with the commercial industries.
- The world is changing, and the climate challenge is raising issues we need to engage.
- Utilizing other energy sources can help support the mission in different ways, including Silent Watch, low heat signature, increasing range.
- Tell us how the industry would capture its carbon metrics - Looking for volunteers to help pilot the program, September 7 due date.
- The Arctic will grow as an AOR to address due to the increasing availability of resources and ease of navigation. The costs to address the effects of climate change in the region are here today.

**Mr. Richard Kidd - We must prepare our facilities from all threats, including cyber and climate.**

- Installation Energy Resilience
  - Plan and Develop for Installation Energy Resilience - support the mission of each facility.
  - Execute - ERCIP is critical to helping installations develop their resiliency.
  - Measure and Verify - Black Start Exercise. This tests the installations' ability to perform with a black out situation outside the gate.
  - SECDEF sees the metrics of these efforts.
- DoD Climate Adaptation Plan (CAP)
  - Ensures that DoD can continue to operate under changing climate conditions and persevering operational capability.
  - Ensuring resilient built and natural infrastructure - ensuring we have the infrastructure that is resilient to changing climate conditions.
  - Enhance adaptation resilience through community resilience by partnering with DoD. The communities around the installations must be resilient, as they house and support the facilities.
- Defense Climate Assessment Tool (DCAT) Purpose

- Assess the vulnerability of the installations.
- 1400 sites have used this tool, including overseas, and intend to be complete by end of calendar year 2022.
- DCAT can look at surrounding communities, and has been shared with other agencies, as well as foreign governments.
- The Department has two support regional partners.
  - OLDCC - RICHAMP - helped predicate impact from Hurricane Henri on the region.
  - The readiness and environment readiness program REPI - designed to help developed off base land in support of DoD missions.
- Climate change is going to contribute to instability globally. This will drive US intervention and HADR missions.
- The National Guard no longer prepares for fire season, but for fire year. The guardsmen are deploying to firefighting missions versus training for combat.
- US Army Corp of Engineers is also facing these impacts.

## **Day 2 – Tuesday, 31 August 2021**

### **A National Conversation on Cybersecurity and Defense**

**Congressman Jim Langevin, Chair of the House Armed Services Subcommittee on Cybersecurity, Innovative Technologies, and Information Systems**

**Mr. Chris Inglis, U.S. National Cyber Director**

**Congressman Jim Langevin - Protection of the Cyber domain is vital to US economic and national security. Congress has established a permanent White House agency whose mission is Cyber security. This action was precipitated by US Cyberspace Solarium Commission Report:**

**<https://www.solarium.gov/report>**

- Cyberspace Solarium Commission Report prompted Congress decision to establish US Cyber Czar.
- Our country is at risk of catastrophic cyberattacks.
- Congress' solution is layered cyber domain defense coordinated by a Whitehouse based cyber security director.
- Great power competitors will challenge us in cyber in the “gray zone” – outside the domain of regular warfare.
- Chinese and Russian spheres of influence in cyber are global – through a computer keyboard.
- Deterrence is possible in cyberspace; mutual assured destruction is not an option.
  - Need rules based international order to be applied to cyber resources.
  - Cyber weapon payloads are not equivalent to kinetic payloads but can affect our ways of life in similar ways.
- Much of US cyber is in private sector – so unique collaboration process is required.
- Most federal agencies have no experience dealing with cyber threats and attacks.
- All federal agencies are on the front line of cyber warfare.
  - National security of US could rely on security of OPM data bases and others.
- Cyber corps program – Allows schools to participate in tuition coverage programs to study cyber and then work in cyber industry. Should be increased by 1000s. Also Cyber must be taught at K-12 so citizens are aware of need and threat.
- Most significant cyber threat is the rogue actor without a return address.

**Director Chris Inglis - Cyber defense requires a coherent approach across the public and private sectors and participation by every citizen. The foundation of Cyber defense is resilience in response to attacks and threats, and coordination and collaboration among government agencies, private sector companies, academia, and individuals. Cyber security must be woven into the fabric of America.**

- There is a critical need for a robust defense industrial base – the industrial base is cyber reliant.
- Cyber is an increasingly important part of our national security – and a strategic concern.
- Need 500,000 cyber and IT qualified professionals; each citizen needs to be fluent in cyber.
  - Talent development is vital to national security.
- Four goals for US Cyber Director are:
  - Achieve Federal Coherence.
    - Common architecture and standards.
    - Primary allegiance to government entities must change to a larger public private coherent enterprise.
  - Assure private public collaboration is robust and working well.
    - Collective resources to defend common spaces with a coordinated strategy and response.
  - Resilience
    - Enhanced national confidence that we are resilient and robust.
    - Enough trained and educated people; individual citizens are a component of defense.
  - Budget Oversight Responsibility
    - Unity of effort across federal government.
  - DoD's CMMC is permanent; other supply chains should have similar cyber protections. Part of job of Cyber director.
  - There is a growing propensity to collaborate with other nations and a willingness to impose consequences.
  - Universal Cyber Threats
    - general purpose info technology – e.g., cell phones.
    - special purpose technology – e.g., pipelines, electric grids.
    - Threats that undermine public confidence.
  - Non nation state actors are the biggest threat.....nation state actors know there are consequences.

### **A National Conversation on Foreign Affairs and Defense**

**Congressman David Cicilline, House Foreign Affairs Committee**

**Mr. Thomas Donilon, Former US National Security Advisor**

**Walter Berbrick, DLP, Director of Arctic Studies, Naval War College**

**Congressman David Cicilline - Biggest threats to America are China, Russia, Covid, and destruction of democracies around the world.**

- Federal budgets must reflect the use of diplomacy.
- Must reaffirm our commitment to our allies.
- Must be assured that Afghanistan doesn't become a terrorist home.

**Thomas Donilon – COVID is a major threat to our national security – undermines economic stability.**

- Afghanistan is not over –
  - US is still committed to evacuations.
  - US is still committed next phase of life for 1000s of emigres.
  - US is still committed to defend against re-emergence of terrorism.
  - Taliban not a good-will government; we must rally international support to check their intent.
- National security depends on economic primacy.
  - Pandemic – has divided world; fragments with disparate interests can be influenced for our benefit.
  - Vaccinations – can move nations toward better economic recovery.
  - Economic renewal – more possibilities after we get control of virus.
  - Invest in economy to provide future growth.
- Managing US China relationship
  - Competition has advanced from trade to ideology, defense, and military.
  - Need US and allies to join in shaping response to China, intensive diplomatic efforts.
  - Bilateral US/China goals were ineffective; need multilateral approach.
- Internal investment in key technologies
  - US must invest in itself.
- Cyber threat is at a critical point – fundamental security challenge -
  - Ransomware, Cyber attacks.
  - Currently not much deterrence.
  - Critical infrastructure – principally held in the private sector – must be protected.
  - Payment systems – determine role of crypto currency in cyber defense.
  - Internet of things – need security.

**Dr. Walter Berbrick - America faces a strategic inflection point in a ‘Blue Arctic.’ Need American commitment to the Arctic; continuous presence; what does our Arctic policy portend for American business, industry, access to resources, expansion of democracies throughout the world, and economic growth. New frontier of American Defense.**

**US NAVY Strategic Arctic Blueprint:** <https://www.navy.mil/Press-Office/Press-Releases/display-pressreleases/Article/2463000/department-of-the-navy-releases-strategic-blueprint-for-a-blue-arctic/>

- Arctic – Major source of resources; for US, Russia, China, and small states and areas within a “Blue Arctic.”
- DoD is moving toward great power competition in the Arctic.
  - Russia – Northern borders; underhanded management of traffic along its border.
    - Active defense in Arctic.
    - Anti-access area denial systems deployed in Arctic.
    - Most capable fleet with easy access to Europe and Asia.
    - Deploying Dual use unmanned undersea vessels; industrial vessels (cable layers) and investing in nuclear powered icebreakers.
  - China
    - Developing a polar silk road.
    - Relying on access to resources.