

Army Aviation Association of America

Joseph P. Cribbins

45th Annual Aviation Product Symposium



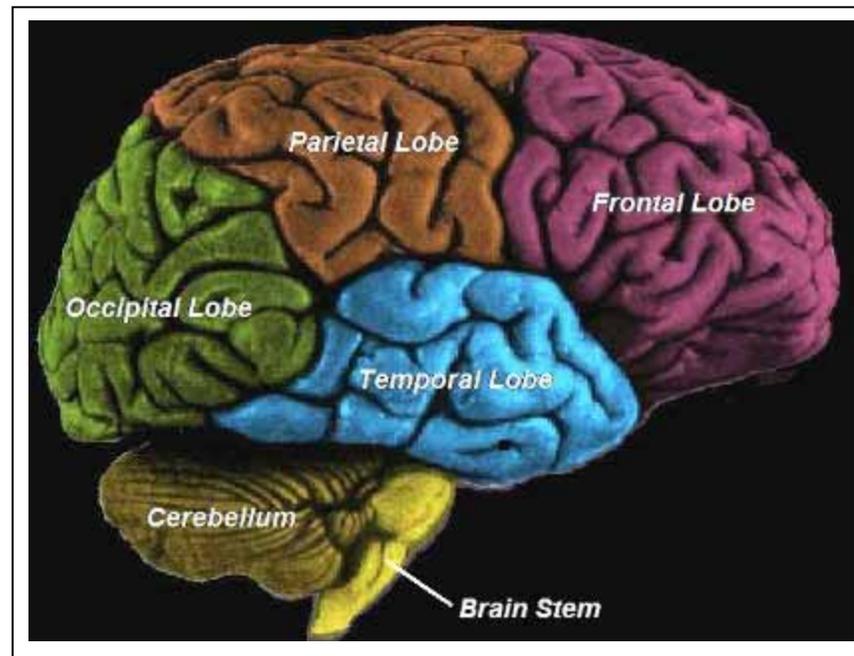
“Readiness: Army Warfighting Challenges”

Bill Phillips

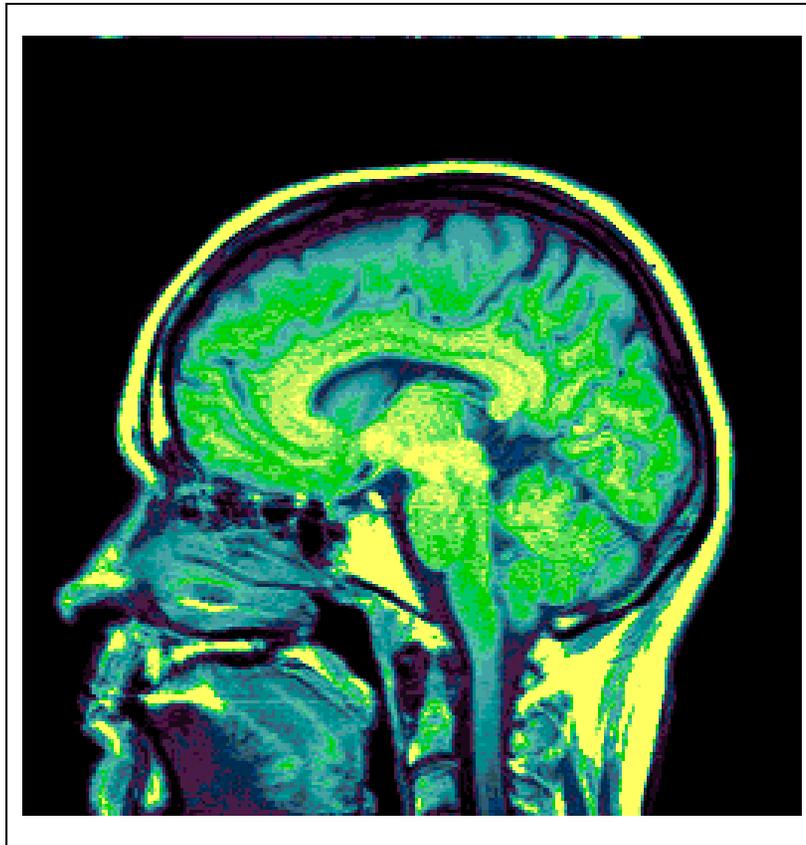
15 November 2017

The Human Brain

- Computational Power** = 10_{16} cycles per second
- Weight** = 4 lbs.
- Volume** = 0.06 cubic feet



How Many Watts Of Power Does The Human Brain Consume?



Answer

15 Watts

Tianhe-2 Is The Most Powerful Supercomputer.

Computational Power = 34 Trillion cycles per second

Weight = N/A.

Volume = 720 square meters

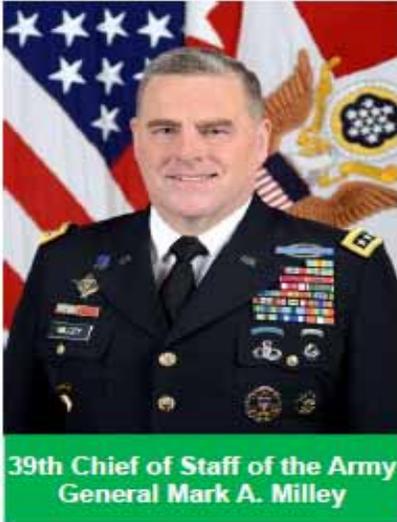


Power Required = 17,808.00 (kW)

(Data Provided by infoworld.com)



Challenges We Face



“Our fundamental task is like no other – it is to win in the unforgiving crucible of ground combat. We must ensure the Army remains ready as the world’s premier combat force. Readiness for ground combat is – and will remain – the U.S. Army’s #1 priority.” – Gen. Mark Milley

CSA PRIORITIES:

1. Readiness
2. Future Army
3. Take care of troops

"Russia, China, North Korea, Iran, and counter-terrorism. Of those five challenges, we have to be able to deal with two of the four named countries ... near simultaneously, and one of them we have to defeat and the other we have to deny ... You and I, as an Army, have to maintain the capability and the readiness."

GEN Milley

Strategic Environment

- **Army more committed world-wide than ever**
 - Increased Afghanistan presence
 - EUCOM a growing concern; Russian exercises
 - ISIS remains a focus in ME
 - NK missile provocations; relationships with China/ Asia-Pacific allies
- **Recent and continued leadership changes:**
 - Acting SA, VCSA, G-1, G-2, G-6, MILDEP (FMC); SA awaiting confirmation
- **Army end strength increasing (120k reduction by 2017 reversed)**
- **Multi-domain battle doctrine gaining traction across Joint force**
- **Strategic Portfolio Review Process (SPAR) evolving**
 - Aligning S&T with potential for additional trade-offs
- **Modernization Strategy rapidly evolving**

Challenges and Goals

- **Challenges**

- Russian New Generation Warfare & Chinese Aggression
- Army is out-ranged, outgunned, and outdated
- Army must restructure, reorganize and modernize
- Lack of Capability and Capacity (Munitions “Bathtub”)
- Readiness – Adding BCTs and resourcing to improved readiness
- World-wide Commitment – Challenges in Training!

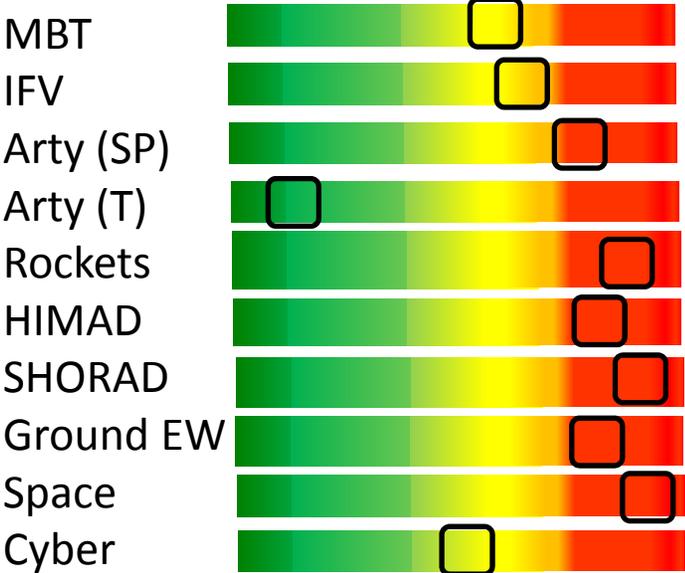
- **Main Goals**

- Balance readiness (field near-term capabilities and trained force) with longer term modernization efforts
- Build Cross-Domain Capabilities – Ensuring Joint Force Freedom of Action
- Train for Full Range of Military Operations – shift from COIN

- Army Aviation today is 84% committed; project 88% o/a 2018

The Operational Environment of 2030

Potential for Conventional Overmatch



Potential Game Changers



Laser Weapons



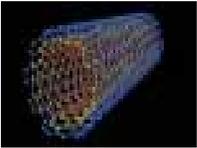
Synthetic Bio



RF Weapons



Internet of Things



Energetics



Power



EDKEW(Rail Guns)

3rd Offset is essential to keep pace...increase emphasis on game changing technologies now!

Today's Acquisition Environment

Acquisition Reform?

or

Acquisition Transformation?

Acquisition Reform- “Changed Paradigm”

Current Environment – Complex, Disruptive – Opportunity!!!

New Focus 2017 and Beyond:
greater **streamlining** for
Effectiveness and Efficiency;
shorter execution timelines!

2017: Streamlining the Process

- McCain & Thornberry Legislation
- Defense Innovation Unit-Experimental (DIUX)
- Review/Legislation
- Rewrite Acquisition Instructions
- Army Modernization Command

2009: **Weapon Systems Acquisition Reform Act** (*establishes CAPE/DOT&E/Director of Systems Engineering, and puts more emphasis on testing and cost estimations*)

2010: **Army Acquisition Review (AAR) (Decker-Wagner)**

2008: **Gansler Study**

1996: **Clinger-Cohen Act** (*established comprehensive approach for acquisition and management of IT*)

1990: **Defense Acquisition Workforce Improvement Act** (*establish a process that professionalizes the acquisition workforce*)

1994: **Federal Acquisition Streamlining Act** (*simplifies procurement procedures, encourages use of COTS, and promotes fixed price contracting*)

1989: **Packard Commission** (*overcomplicated organization and rigid procedures lead to over-expenditures*)

1986: **Goldwater-Nichols Act** (*centralizes acquisition responsibility in OSD*)

1982: **Nunn-McCurdy Act** (*requires Congressional notification for cost overruns*)

Previous efforts focused on **increasing oversight** as a result of **cost and schedule overruns**

1970: **Blue Ribbon Defense Panel** (*acquisition policies contribute to cost overruns, schedule slips, and performance issues*)

Strategy: Army Modernization Command



OCT 03 2017



Modernization Priorities for the United States Army

We have the most skilled, ethical, and combat hardened Army in our Nation's history. Our Army remains globally engaged in a complex, dynamic and increasingly uncertain world and we stand ready to fight and win our nation's wars.

The competitive advantage that the United States has long enjoyed, however, is eroding. We are being challenged in every domain of warfare: land, maritime, air, cyber and space, and the challenges are growing in scale and complexity. Our recent focus on fighting wars of insurgency and terrorism allowed our adversaries to make improvements on their modernization efforts and erode our advantages enjoyed since World War II. Our Army must regain our overmatch and competitive advantage against emerging threats, competitors, and adversaries. We have worked hard in recent years to increase our readiness and strengthen our formations and now must modernize our capabilities to increase our lethality against emerging regional and global near-peer adversaries.

This modernization strategy has one simple focus: make Soldiers and units more lethal. To be successful, we must turn ideas into actions through continuous experimenting and prototyping, improving acquisition business processes, pursuing appropriate commercial/off-the-shelf options, and improving training. Additionally, our modernized capabilities must have interoperability with allies built-in.

The American people expect us to win, and we win on the offense by mastering the fundamentals of shoot, move, communicate and sustain better than any other Army. We mass fires with precision, we seize and retain the initiative, we retain the mobility to maneuver while protecting our forces, and we gain critical information to think and act decisively, all of this backed up by world-class logistics, and led by world class leaders.

Based on these fundamentals, our modernization priorities are:

1. A Long-Range Precision Fires capability that restores US Army dominance in range, munitions, and target acquisition.
2. A Next Generation Combat Vehicle – along with other close combat capabilities in manned, unmanned, and optionally-manned variants – with the most modern firepower, protection, mobility, and power generation capabilities, to ensure our combat formations can fight and win against any foe.
3. Future of Vertical Lift platforms – attack, lift, recon – in manned, unmanned, and optionally-manned variants that are survivable on the modern and future battlefield.
4. An Army Network with hardware, software, and infrastructure – sufficiently mobile and expeditionary – that can be used to fight cohesively in any environment where the electromagnetic spectrum is denied or degraded.

5. Air and Missile Defense capabilities that ensure our future combat formations are protected from modern and advanced air and missile delivered fires, including drones.

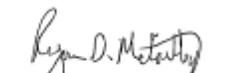
6. Finally, Soldier lethality that spans all fundamentals – shooting, moving, communicating, protecting and sustaining. We will field not only next generation individual and squad combat weapons, but also improved body armor, sensors, radios, and load-bearing exoskeletons. Putting this all together, we must improve human performance and decision making by increasing training and assessment, starting at the Soldier level. This will require a rapid expansion of our synthetic training environment and deeper distribution of simulations capabilities down to battalion and companies, with simulation capability to model combat in megacities, a likely battlefield of the future.

Today, our Army is not institutionally organized to deliver modern, critical capabilities to Soldiers and combat formations quickly. Our current modernization system is an Industrial Age model. It was sufficient for past threats, but insufficient to ensure future overmatch and rapid procurement of the six modernization priorities. Our processes are staff-centric and often stove-piped, which inhibits integration within or across programs. Our requirements process is slow and overly bureaucratic. Our talent management process needs to adapt to ensure the right people develop the right capabilities for future battlefield success.

To implement the necessary changes, our Army will establish unity of command and unity of effort that consolidates the modernization process under one roof. This realignment of responsibilities is not additional force structure, but rather a streamlining of work, which will serve as the custodian of our modernization effort to overcome the bureaucratic inertia and stove-piping found in the Army's current construct. It will directly incorporate requirements from the warfighter into the acquisitions process and allow us to prototype concepts. It will enable disruption – the messy, chaotic work that is the hallmark of truly innovative organizations. It will employ agile, responsive cross-functional teams for each of the six modernization priorities, which will report regularly to Under Secretary of the Army and the Vice Chief of Staff of the Army to ensure leadership involvement in early stages of the process. We will reduce the 'time to deliver' for the new systems we need to regain our competitive advantage before the next first battle.

Our Army will implement these modernization priorities to improve our acquisition and modernization processes to ensure that future generations of Soldiers continue to be in the most lethal fighting force in the world, for the next seven decades and beyond.


Mark A. Milley
General, United States Army
Chief of Staff


Ryan D. McCarthy
Acting Secretary of the Army

Strategy: Army Modernization Command

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“The Army will establish unity of command and unity of effort that consolidates the modernization process ... no additional force structure ... streamlining of work ... to overcome the bureaucratic inertia and stove-piping ... directly incorporate requirements from the warfighter ... enable disruption ... employ agile, responsive cross-functional teams ... Report directly to ‘USA and VCSA’ ”



Who Made This Statement?

“Our two greatest problems are **gravity** and **paperwork**. We can lick gravity - but sometimes the paperwork is overwhelming”

A Necessary Task – Pay Attention to Paperwork!

“Our two greatest problems are **gravity** and **paperwork**. We can lick gravity - but sometimes the paperwork is overwhelming”

-- Wernher von Braun



Industry Perspective Thoughts & Opportunities

- **Effective, Consistent Communications**
 - Industry listens carefully -- foundation for success!
- **Innovation: a key to Industry and Army Success!**
 - IR&D – Industry will Invest
 - Leveraging Commercial Items
- **Program Execution – rapid vs deliberate – dilemma!**
 - How best to take Advantage of Disruptive & Leap Ahead Technologies? On ramps!
 - Reward PMs for good & right decisions (e.g., incorporating leap ahead tech; termination; etc.)
 - Testing – true acquisition reform must include testing!
- **Contracting – execute to warfighter need (metrics)?**
 - Two-Way Street (Quality RFPs & Quality Proposals)
 - Risk Averse Culture?
- **Better Buying Power 1-3 – “Where is the Buying part of BBP”**
 - Overuse of LPTA & FFP RDTE Contracts – significant risks!
 - Cost/Contract Reviews!
 - Impact(s) on Small Businesses
- **Intellectual Property**
- **International Opportunities – FMS & DCS**
- **Budget/Budget Process Reform – PPBE?**
- **Industry Must Deliver & Bring Value**
 - Know our Customer and Help!
 - Accountability for Program Execution – fulfill commitment(s)!
- **Supply Availability – 100% Requirement**

Relationships & Partnership
Industry Must Innovate – Government Must Communicate!

Comments