The Reconnaissance Strike Group (RSG)

Presentation for the Honorable, Tom Cotton, U.S. Senator, Arkansas Chairman, Senate Armed Services Subcommittee on Airland

124 Russell Senate Office Building
Washington, DC 20510
1. What you should take away from this presentation;
2. *The Reconnaissance Strike Group*: An alternative Army Force Design;
3. What’s different about the RSG?
4. Rapid Prototyping the Base Platform: PUMA;
5. Summary and Recommendations.

(Backup Slides)

“We could be at war with a great power or major regional actor within five years. The need to address serious deficiencies in high-end combat capabilities in the near-term (five years, let’s say) is becoming an imperative.”

What you should take away from this presentation:

- In January 2016, The National Commission on the Future of the Army recommended piloting an initiative called the Reconnaissance Strike Group (RSG). The current version of FY 17 NDAA directs the Secretary of Defense and the JCS Chairman of to assess the RSG and report;
- The RSG is about innovation, not invention.
- The RSG involves full spectrum rapid prototyping of the operational capability—organizing construct, human capital strategy and equipment—not just the technology.
- The RSG explores new capabilities with smaller inventories of new systems before larger, Army-wide, investments are made.
- The RSG is built around Maneuver (mobile armored firepower for positional advantage), Strike (Stand-off Attack Systems), ISR (intelligence, surveillance, reconnaissance) and Sustainment (logistics)—essential to all arms/all effect is, cross domain warfighting.
- All RSG systems are mounted on a common chassis, the German PUMA, a system that can be built in the USA. (The common PUMA chassis is integral to the force design change.)
The Reconnaissance Strike Group (RSG): An Alternative Army Force Design

- RSG is a self-contained, mobile armored combat formation of 5,500 - 6,000 troops under a Brigadier General;
- **RSG punches above its weight**, mobilizing fighting power disproportionate to its size ("High lethality, Low density");
- RSG offers more capability and survivability with **less overhead** at **lower cost**;
- RSG expands the nation’s range of strategic options;
- RSG offers the **modular continuum** of response Joint Forces need;
- RSG is faster to deploy.

- The RSG is a Mission focused force package designed to execute “All Arms/All Effects” and “Cross Domain” warfare.
- The RSG is functionally organized around maneuver, Strike, ISR (intelligence, surveillance, reconnaissance) and sustainment capabilities.
- Independent employment under **Joint C2**.

The diagram shows the interconnections between Close Combat, Integrated Joint C4ISR, Armed Reconnaissance, and Strike, with Sustainment at the bottom, highlighting the core components of the RSG's design.
“If you want something new, you have to stop doing something old... People in any organization are always attached to the obsolete.”


**The RSG is not “Business as Usual!”**

**Industrial Age: BCT inside a Division (1942 Construct)**

- Colonel Commands 4-4,500 troops

  - Recon Squadron
    - MNVR BN
    - MNVR BN
    - MNVR BN
  - Fires Battalion
  - Engineer BN
  - Support Battalion

**Post-Industrial: RSG for Independent Operations**

- BG Commands 5,500-6,000 troops

  - MNVR BN
  - MNVR BN
  - MNVR BN
  - MNVR BN
  - STRIKE BN
  - C4ISR BN (Joint Plugs)
  - Sustainment BN
The Air and Naval Forces have migrated to One-Star, High Lethality, Low Density Forces

One Star Force Packages Exist Now!

Industrial Age

- Combatant CDR
- Joint TF CDR
- Corps/AF/Fleet /MEF CDR
- Division CDR

Information Age

- Combatant CDR
- Joint Force CDR

The compression of C2 overhead combines existing single-Service echelons into a flatter, multi-Service integrative C2 structure that also provides long-term cost savings.
What’s different about the RSG? A Snapshot:

**PUMA.** PUMA has a welded armor hull with add-on modular armor. Weight varies from 29.4 to 43 tons depending on the desired protection level. Current PUMA mounts a 30 mm autocannon. PUMA’s 1,073 HP engine means it can also mount a 120mm or 130mm Smooth Bore Cannon. *The system is fielded*

One RSG contains 242 ‘30mm’ and 161 ‘120mm’ or ‘130mm’ equipped PUMAS.

**AMOS.** "Advanced Mortar System," a double barreled breech-auto-loading 120 mm mortar turret mounted on wheeled or tracked chassis. System operates autonomously with direct and indirect fire capability together with Multiple Rounds out to 10 km. *The system is fielded.*

One RSG contains 48 ‘120mm Mortar’ equipped PUMAs.

**MLRS.** The weapon can fire guided and unguided projectiles from 42 to 300 km. *The system is fielded.*

One RSG contains 12 MLRS launchers/systems.

**NASAMS** (National Advanced Surface to Air Missile System) is a medium range, air defense system that identifies, engages and destroys 72 targets simultaneously (aircraft, helicopters, cruise missiles and UAVs). *System is tested and ready for fielding.*

One RSG contains 18 NASAMS launchers/systems.

**TARES** (Tactical Advanced Recce Strike) is a UCAV with a 200 km range and endurance time of four hours. It autonomously searches for, identifies and engages targets. Operator can also pick and attack targets (stationary and mobile armored or unarmored) or preplan. Up to 24 TARES can be flown simultaneously. *System is tested and ready for fielding.*

One RSG contains 24 TARES launchers.

Note: Aviation Component in Strike BN plus systems inventory in backup slides.
The RSG: How it Fights

RSG is designed to find, target and annihilate the enemy:

- Focus is on enemy’s destruction, not on holding ground;
- 360 degrees warfare plus defense against top attack demands capability for rapid change in posture and direction;
- Multiple radars provide layered top attack/air and missile defense;
- Use of medium and long range unmanned ISR and Strike systems is maximized through cross domain integration;
- Subordinate elements (battalion battle groups, manned and unmanned aircraft) enjoy freedom to maneuver in depth, to attack or defend as required (Dispersion plus Concentration of Effects).
RSG versus BCT Sustainment

RSG Operating Range: 1800 km or 10 days combat without replenishment.
Total Group Fuel Capacity: 762,000 gallons.

VS

ABCT

Operating Range: 500 km or 2-3 days of combat without replenishment.

Total Brigade Fuel Capacity: 500,000 gallons.

NOTE: M1A1/2 tank with turbine engine has 500 gal fuel capacity for a maximum 8 hours of operation. For 87 M1 tanks in an ABCT the total fuel consumption is 130,500 gal per 24 hours. After 2 days of combat the ABCT will have consumed approximately half of its fuel.

RSG is capable of independent operational maneuver within a Joint Task Force. The BCT is not capable of independent maneuver.
RSG Sustainment: Self Contained Logistics

- RSG Sustainment Battalion is a “Stand Alone” unit unlike the BCT’s Brigade Support Battalion (BSB).
- Each RSG Battalion has organic support (roughly 25% of its BN assets).
- RSG integrates more sustainment troops (2,426 Soldiers) than an entire Brigade Support BN (1,357 Soldiers).

Colonel Commands 4-4,500 troops

BG Commands 5,500 troops

SUST

MNVR BN

MNVR BN

MNVR BN

SPT

SPT

SPT

Recon Squadron

Fires Battalion

Engineer BN

Support Battalion

MNVR BN

MNVR BN

MNVR BN

SPT

SPT

SPT

STRIKE BN

C4ISR BN

Sustainment BN

SPT

SPT

SPT

32% of all vehicles and 29% of soldiers in BCT are logistics support. BCT BNs lack organic support.

43% of all vehicles and soldiers in RSG consist of integrated logistics support.
The RSG is faster to deploy:

# of Large, Medium-Speed Roll-on/Roll-off (LMSR) ships required to deploy:

- X ABCT
- X ABCT
- X ABCT
- X CAB
- X FA
- X SUST

104,238 metric tons
168,725 square meters

VS

48,214 metric tons
56,045 square meters

RSG requires a third fewer LMSRs than a BCT based division equivalent.
"Quit looking for the next big thing. Put the technology that is sitting on the shelves to work, and do it with a clear purpose."

Bob Davis, the founder of LYCOS

What works now should triumph over “unobtainium.”

First, PUMA provides the greatest overall increase in capability of the vehicles CBO evaluated.

Second, although the least expensive of the options, the PUMA provides a significant improvement in the Army’s IFV fleet.

Third, when judged against the current Bradley IFV, the PUMA provides the greatest increase in capability per dollar invested, regardless of the metric used.

And fourth, PUMA is in production. adoption would pose a relatively lower programmatic risk.

Examples of PUMA Variants for Rapid Prototyping:

- **Infantry Fighting Vehicle (IFV):** Currently fielded system. Variant would include minor modifications to accommodate US requirements. (*Projekt System & Management GmbH (PSM))*;

- **Armored Gun System (AGS):** 120mm gun turret with same gun and ammunition used by current US M1 series MBTs—an expeditionary tank. (*Projekt System & Management GmbH (PSM))*;

- **Advanced Mortar System (AMOS):** Auto-loading 120mm mortar turret currently in use by the Finnish and Swedish armies. (Patria Vammenas and Hagglunds; a Subsidiary of *BAE Systems*.)

- **Command Control Communications (C3):** The *HoverMast 100* is currently in use by the Israel Defense Force (IDF). It provides wideband communications including sensors providing ISR and C3 on a tethered drone linked to a 50-100 meter long cable. (*Sky Sapience*)

- **The National Advanced Surface-to-Air Missile System (NASAMS™):** NASAMS is part of the U.S.’ National Capital Region’s air defense system. It is in service in Norway, Finland, Spain, and the Netherlands. (*Raytheon & Kongsberg*).
PUMA Prototype can Accommodate Rheinmetall’s new 130mm Tank Cannon:

- Rheinmetall designed the 120mm tank gun now used in U.S. and allied tanks.

- Rheinmetall recently announced it has developed a 130mm tank gun.

- The new 130mm weights about 3.5 tons or roughly the same as the 120mm gun and uses the same type of ammunition (fixed, with projectile attached to the cartridge case containing the propellant).

- However, the 8% increase in caliber results in 50% more kinetic energy than the 120mm gun produces.

A turret with the 130mm cannon can be mounted on a PUMA chassis.

Source: Lars Hoffmann, “German Rheinmetall works on new 130mm Tank Gun,” Defense News, 15 June 2016
What happens if PUMA rapid prototyping is not funded?

According to a 2011 review of Army Acquisition, between 1998 and 2011, the Army spent more than $1 billion dollars annually on programs that were ultimately cancelled... The total loss of R&D resources on cancelled programs between 1985 and 2014 is estimated to be some $38.5 billion... We could be at war with a great power or major regional actor within five years. The need to address serious deficiencies in high-end combat capabilities in the near-term (five years, let’s say) is becoming an imperative.


If nothing is done, the U.S. Army will opt for an “improved” Bradley—a platform designed in the 1970s that is not the answer for the 21st Century.

On Dec. 23, 2014, the Army awarded BAE Systems Land & Armaments a $383 million development contract to develop AMPV -- a vehicle based on the Bradley Fighting Vehicle chassis -- after General Dynamics, the only other likely competitor, elected not to bid, effectively ceding the work to BAE which owns the industrial entity that originally built the Bradley. The Army's fiscal year 2017 budget request includes $184 million to buy 29 prototype AMPV vehicles... In addition to the 29 developmental vehicles, the Army plans to procure a total of 2,897 production vehicles over nearly two decades beginning in fiscal year 2018. In total, the service plans to spend $1 billion on research and development for AMPV and $12.7 billion on procurement.

Recommendations:

“Don't fight the problem, decide it.”
George C. Marshall, General of the Army

- The **RSG** provides significantly more combat power per metric ton, flattens command and control (C2), and plugs into Joint Force Commands without reliance on intervening, large, vulnerable Division/Corps HQTRS.

- The **RSG** should be viewed as the vanguard for the rapid deployment of future Army Forces to Joint Warfighting Operations; structured for flexible mission sets and tight integration with aerospace and naval power.

- **Rapid Prototyping** is innovation, not invention. It’s a more effective return on public investment. The use of a mature, proven platform is the best, most cost effective way to explore/develop new capabilities quickly with smaller inventories of new equipment before larger investments are made.

- **European Reassurance Initiative**: Partnering with Germany to build a common platform that can equip U.S., German and other NATO forces is important to Alliance Cohesion and Cooperation;
Backup Slides
J. Michael Gilmore, the chief weapons tester faulted the Army's approach, which he argued was based on incremental upgrades to older technologies. Gilmore outlined his findings in a 5 July 2016 memo to Defense Secretary Ash Carter:

"The Army continues to attempt to meet operational needs with materiel solutions based on concepts developed for Future Combat Systems."


NOTE: FCS lasted 8 years and squandered nearly $20 billion on a fantasy: that soldiers, bombs and bullets could be replaced by remote sensors and networks. Once the money started pouring in, the Army's top generals did not want to risk their careers by revealing the program’s obvious flaws and unrealistic goals. Members of Congress declined to challenge sub-contracts that brought money into their own districts.
Why PUMA is ideally suited to rapid prototying:

- The fully capable platform FCS *hoped* to build exists now. It’s called PUMA.
- PUMA delivers: Superior protection (active and passive) with modular armor, and an unmanned turret.
- PUMA’s 1100 HP engine means PUMA can also mount 120mm or 130mm Tank Guns, Artillery, Engineering and Missile Defense Systems.
- When used as a common chassis/platform, PUMA offers enormous savings in logistics.
- PUMA research, development and testing are complete at a cost of less than 1 Billion Dollars.
- When a proven platform like PUMA is leveraged, the savings in time and cost are phenomenal;

The PUMA hull is a new 21st Century design, not a derivative of an older hull. From its inception, PUMA was built to cope with threats from IEDs and EFPs. PUMA's modular armor and internal architecture offer superior frontal and side protection against kinetic and chemical warheads.

Projekt System & Management GmbH (PSM), is the co-development group of Krauss-Maffei Wegmann (KMW) and Rheinmetall.

NOTE: Details on validated performance of passive and active protection systems are classified.
How the U.S. Army pays for its RSGs: Extract Savings

- The U.S. Army must shed old equipment sets it no longer needs. Shedding old equipment drops maintenance costs; (Estimated Savings: $2.7 to $3.0 billion annually)

- Curtail expensive programs to upgrading Cold War equipment sets to extend their service life; (Estimated Savings: $3.6 to $4.1 billion annually)

- The U.S. Army must reduce and eliminate command overhead it no longer needs: Reductions in overall numbers must involve reductions in redundant and expensive overhead in the form of unneeded headquarters. (Savings: $1 billion annually)

Total Estimated Annual Savings: $7.3 to $8.1 billion.
(The US Army receives 22 billion for modernization in the FY 17 NDA)
RSG Weapons Inventories

### MNVR
- 161 Puma or equivalent Armored Gun System (AGS)
- 242 Puma or equivalent Infantry Fighting Vehicle (IFV)
- 48 Puma or equivalent Auto-loading 120mm Mortar
- 36 Puma or equivalent Command, Control, and Communications
- 38 Short Range Air Defense 35mm + (SHORAD)

### STRIKE
- 12 Multiple Launch Rocket System (MLRS)
- 24 Tactical Advanced RECCE Strike (TARES)
- 15 ADA launchers (NASAMS 2)
- 12 AH-64E Apache Helicopters (*Place Holder until UCAV exists*)
- 30 Strike Coordination (Fire Direction) Vehicles and Mobile ADA Targeting

### CMD (C4ISR) & CONTROL
- 12 UH-60 Blackhawk Helicopters
- 8 Armored Vehicle Launch Bridge (AVLB)
- 12 Engineer Mobility/ Assault Vehicles

### SUSTAINMENT
- 58 Medical Evacuation and Treatment Vehicles
- 48 Forward Repair Shops
- 228 Palletized Loading Systems (PLS) or Load Handling System (LHS)
- 186 Large Capacity Fuel Carriers including self contained water purification system.
Reconnaissance-Strike Group (RSG)
Maneuver Battalion:

- **MNVR BN**
  - 964 Soldiers (With 6 Soldiers in back of IFV)

- **HHC**
  - 304 Soldiers
  - **Recon-Strike Co**
    - 120 Soldiers
      - **Recon-Strike Co**
        - 120 Soldiers
          - **ARMORED GUN CO**
            - 52 Soldiers
          - **MTR BTRY**
            - 48 Soldiers
        - **9 PUMA AMOS**
          - 1 PUMA C2
    - **48 PUMA IFVs**
      - 21 PUMA AGS
      - 3 PUMA C2
- **2 PUMA C2**
  - 2 PUMA IFVs
- **764 Soldiers** (With 2 Soldiers in back of IFV)

*Note: The diagram includes a detailed breakdown of the Maneuver Battalion's structure and equipment.*
RSG Battalion Prototype for Test and Evaluation

RSG Maneuver Battalion (Armed Recon):

108 PUMAS
- Command, Control, and Communications (7)
- Armored Gun System (33)
- Infantry Fighting Vehicle (50)
- AMOS Mortar (8)
- Sky Ranger (3)
- Engineer Breach (3)
- Strike Coord (3)

Other Weapon Systems*
- NASAMS 2 (3)
- TARES (6)
- Giraffe 4A radar (1)
- M270 MLRS w/ GLSDB (3)
- Sentinel Radar (1)
- Arthur Counter-fire Radar (1)
- Fire Direction Control (8)

*Potential for modified PUMA chassis in the future.

Supported by or attached from STRIKE or C4I BN
RSG BN: Recon-Strike Company

AGS Platoon

IFV Platoon

IFV Platoon

Company HQs
PUMA-based RSG uses Single Chassis

Fewer specialty mechanic MOSs required.

Puma Chassis Repair MOS

Puma Turret Repair MOS

959 Puma Chassis:
- Single chassis significantly reduces maintenance logistics costs;
- PUMA also dramatically reduces the Fuel Requirement;
- With a single common chassis the only challenge is determining when to replenish the inventory.
RSG C2 is designed for independence:

- Responds Directly to Joint Force CDR
- Integrates Army, USAF/USN Strike Assets (STRIKECOORD);
- Collects, Analyzes and Exploits Information.

- Absorbs additional Battalions or gives up battalions as needed;
- Additional Staff Functions such as Civil Affairs, SJA can be integrated as needed.

**Brigadier General**

Recon Strike Group Commander

- **Colonel**
  - Chief of Staff

- **Lieutenant Colonel**
  - Maneuver (Operations including PSYOPS)
  - ISR
  - Strike COORD
  - Sustainment (Personnel + Logistics)
  - Information + Cyber

Intelligence functions split, but integrated to support maneuver, strike and ISR.
“The more elastic a man’s mind is... the more it is able to receive and digest new impressions and experiences... Youth, in every way, is not only more elastic, but less cautious and far more energetic.”

J.F.C. Fuller, Major General, British Army 1936

Eliminating unneeded echelons offers the opportunity to promote younger, exceptional officers faster to flag rank. (Scraps Colonel level of command)

New Human Capital Strategy values talent more than longevity! (C2I = Character, Competence, Intelligence).
Institutional Surgery:
Reduce Army overhead!

“Failure in war is most often the absence of one directing mind and commanding will.” Sir Winston Churchill

- From March 1942 to April 1945 when there were 11 million men in the Army and Army Air Corps the U.S. had only 4 four star generals to command them: Marshall, MacArthur, Eisenhower and Arnold.
- Today, the U.S. employs 23 Four Stars to command a combined Army and Air Force of roughly 880,000 soldiers and airmen.
The ISR-Strike-Maneuver-Sustainment Framework:

- The Framework is not just about “things.” It’s about integrating existing and future capabilities within an agile operational framework guided by human understanding.
- It’s an intellectual construct with technological infrastructure.
- The Framework is the next logical step in the evolution of warfare beyond the ad hoc coordination of Federal Agencies or combined arms, air-ground cooperation, air-sea battle, amphibious and special operations.
- Single-service command structures are obsolete.
- U.S. capabilities must be integrated at the operational level to detect, deter, disrupt, neutralize or destroy opposing forces/threats decisively;
- Apply the **ISR-Strike-Maneuver-Sustainment Framework** as a methodology for investment planning and programming as constrained budgets compel force optimization;
- Build the framework inside a reduced number of regional unified commands.
What could Reorganized Army Forces look like?
(252,500 inside 420,000-450,000 man AC Army)

**Maneuver Echelon:**
(4) RSG Reconnaissance Strike Group – 5,500-6,000
(12) CMG: Combat Maneuver Group – (Armored) 5,500
(6) ICG: Infantry Combat Group – (Motorized) 5,000
(4) AAG: Airborne-Air Assault Group – (Light) 5,000

**Strike Echelon:** (Aviation/UCAV/GLCM/MLRS), TMD
(4) ACG: Aviation Combat Groups – 3,500
(2) STG: Strike Groups (UCAV/MLRS) – 3,000
(4) TMD: Theater Missile Defense Groups – 4,000

**ISR Echelon:** (C4I plus SR/manned/unmanned)
(4) C4I Groups – 5,000

**Sustainment Echelon:** (See engineer consolidation)
(8) CSG: Combat Support Groups – 6,000
(2) ENG: Engineer Groups (construction) – 4,000
(1) CBG: Chem-Bio Warfare Group – 3,000

The numbers and types of Combat Groups is an NCA decision. Red denotes new equipment;
The 8th Army (in Korea) contained 201,000 U.S. Soldiers + 26,000 Marines
Joint Rotational Readiness:
The Path to Unity of Effort and $Savings!

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<th>Pre-deployment Phase (6-9 months)</th>
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<th>Modernization TNG/ED Phase (6-9 months)</th>
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Joint rotational readiness achieves several important goals:

1. Forces habitually train as a Joint Team;
2. Deployments become predictable improving the quality of life for service members;
3. The National Command Authorities (NCA) know what forces are ready to fight;
4. Funding for O&M is managed more efficiently;
5. How many and what types of force packages/modules is a matter for decision by the NCA.
What you should take away from this presentation:

This briefing documents the unclassified results of simulated combat in the Baltic Littoral against contemporary Russian Army Forces comparing the performance of current U.S. Army Brigade-based forces with an alternative Army force design, the *Reconnaissance Strike Group* (RSG).

In 5 Days of simulated combat against attacking Russian Independent Brigades (23,000 troops):

- Brigade Combat Teams (BCTs) including support brigades (24,000, and 28,500 troops respectively) were defeated.
- (2) RSGs of 11,000 troops *decisively defeated* the attacking Russian Force.
- (1) RSG of 5,500 troops *defeated* the attacking Russian Force.