

7 September 2015

MEMORANDUM FOR: National Commission on the Future of the Army (NCFA)

ATTN: General (ret) Carter Ham, U.S. Army, Chairman

2530 Crystal Dr., Suite #5000

Arlington, VA 22202

SUBJECT: COMPETITIVE PERFORMANCE ANALYSIS OF US ARMY BRIGADE-BASED FORCE AND ALTERNATIVE FORCE DESIGN, RECONNAISSANCE STRIKE GROUP (RSG) IN BALTIC WARFIGHTING SCENARIO.

SIMULATION RESULTS: In 5 Days of simulated combat against Russian Independent Brigades (23,000 troops) the *Combat Power Builder and Combat Calculator*, (CBCC), modeled four scenarios. The paper presents the results, as well as a briefing and a CD with simulation data and backup slides.

1. Baltic Scenario 1:

BLUE FORCE DEFENDS: 24,000 US Troops (1) SBCT, (2) ABCTs plus Artillery, Attack Helicopter, and Support Brigades.

OUTCOME: **Red 80% defeats** Blue 57%,

2. Baltic Scenario 2:

BLUE FORCE DEFENDS: 28,500 US Troops (1) SBCT, (3) ABCTs plus Artillery, Attack Helicopter and Support Brigades.

OUTCOME: **Red 79% defeats** Blue 59%,

3. Baltic Scenario 3:

BLUE FORCE DEFENDS: 11,000 US Troops in (2) RSGs.

OUTCOME: **Blue 79% defeats** RED 59%,

2. Baltic Scenario 4:

BLUE FORCE DEFENDS: 5,500 US Troops in (1) RSG

OUTCOME: **Blue 73% defeats** RED 69%,

BACKGROUND. Open-ended down-sizing of the U.S. Army has ignored how the Army's shrinking fighting force will perform in a dangerous "come as you are" warfighting scenario. No Fortune Five Hundred Firm in the world would do what the U.S. Army has done: Reduce its work force by a third without carefully reorganizing the corporation to include its overhead; keeping one eye on the current market and the other on future business. As a result, today's Army is much less capable. Given the trend lines in Eastern Europe, Asia and the Middle East, this outcome is antithetical to the security interests of the American People. The Reconnaissance Strike Group (RSG) is a critical first step in the process of extracting more ready, deployable combat power from existing numbers of soldiers in the U.S. Army.

The world has changed dramatically since Army Forces were defeated on the Korean Peninsula

in 1950. In the 21st Century, if Americans lose the first fight on the Eurasian landmass, Americans may not have the luxury of fighting a second time.¹ If the U.S. Army cannot rapidly respond in a future crisis with superior lethality to a Russian military build-up, the loss of the Baltic Littoral or Western Ukraine to Russian ground forces would be difficult, if not impossible to reverse. Washington would confront the choice of conducting a humiliating withdrawal or fighting a costly war to redeem its honor.² No amount of American aerospace and maritime power short of a nuclear strike that no one wants would rescue the U.S. and its allies from this strategic dilemma. There is only one solution: a powerful standing, professional U.S. Army organized, trained and equipped to integrate seamlessly with America's growing arsenal of "Strike," and ISR capabilities.³

The temptation to think the addition of some rocket artillery, tanks and automatic cannon to the Marine Corps' light infantry-centric force structure can substitute for a powerful, standing army is ill-advised.⁴ In the maritime domain, the Marines are unmatched. However, fighting that involves a peer or near-peer opponents in Europe, the greater Middle East, or on the Asian mainland demands powerful Army ground forces.

ALTERNATIVE FORCE DESIGN. The RSG is a design that integrates existing technology inside a new organizational construct. The RSG is the start point for *full spectrum rapid prototyping* of the operational capability including technology, human capital and the organizational construct. This form of rapid prototyping mitigates risk, saves money and, eventually, speeds up delivery to the force by *leveraging a mature, state-of-the art platform*. The goal is more combat power at lower procurement and life cycle costs.

Unlike brigade combat team (BCTs), the 5,500-soldier RSG is designed to punch above its weight, mobilizing fighting power disproportionate to its size. It is commanded by a brigadier general with a Colonel as Chief of Staff and staff officers that are lieutenant colonels. The RSG reports directly to the Joint Force Commander or JTF CDR without intermediate division headquarters. In contrast to BCTs, the RSG is equipped with the organic sustainment, C4ISR, firepower, protection and mobility to operate independently inside a JTF. The distance from the Polish border to the Dnieper River in Ukraine is 400 miles. The RSG is structured to conquer this operational distance under fire without running out of fuel, repair parts or ammunition.

SIMULATION MODEL. CBCC is an easy to use 'first order' method to compare force design and actions at brigade or division levels in experimental, classroom, or field settings. The CBCC uses open source data to compute platform combat values, then, groups them into units. Opposing units are placed in 2—4 sectors where environmental and operational factors modify combat values to produce force ratios. The CBCC computes and displays losses in action (Offense or Defense) for 5—7 days, letting the user visualize the battle and draw or refine conclusions for more study.⁵ Back-up Slides in the RSG briefing contain charts with supporting CBCC data.

According to the Congressional Budget Office (CBO) the PUMA offers the U.S. Army the greatest increase in capability per dollar invested, regardless of the metric used. CBO's report is the rationale for the use of the PUMA with 1,003 HP engine as the common platform for the RSG.⁶

Puma is already fielded and in production.

RECOMMENDATIONS: Based on these results, the Chairman and members of the Senate Armed Services Committee are urged to do the following:

1. Report these findings to the President and Congress of the United States. Ask the President to Direct the Chairman of the Joint Chiefs to examine the proposed RSG in simulation using a current, “high fidelity” warfighting scenario.
2. Ask the President and Congress to evaluate the potential for U.S.—German Military-Industrial Cooperation to stand up a PUMA-equipped RSG inside the U.S. and German Armies, as well as, production of the PUMA chassis on U.S. soil.
3. Provide a copy of the RSG simulation to Lieutenant General Timothy J. Kadavy, Director, ARNG and urge him to consider the RSG’s organizational structure for potential use by the Army National Guard.

Respectfully,

Douglas Macgregor
Colonel (ret), US Army, PhD
EVP BMG, LLC

¹ On 1 April 1953, FM Sir Bernard Montgomery told the U.S. Army’s Command and General Staff School class at Leavenworth: “I don’t think you in the United States could produce a well-trained National Guard Division fit to leave this country and go and fight a good enemy under about 5 or 6 months. I don’t believe you could do it. I put that question in Washington to various high-level people that I was discussing with and they agreed. To get mobilized, trained—you see it’s training that counts when you go fighting—you must be trained. And then to go fight somebody it would take about 5 or 6 months. And that’s no good. While you are training you lose the war.”

² Nancy A. Youssef, “Pentagon Fears It’s Not Ready for a War with Putin,” *The Daily Beast.Com*, 14 August 2015.

³ Joint Publication 1, *Doctrine for the Armed Forces of the United States*, (Washington, DC: Government Printing Office, 23 March 2013), 1-5.

⁴ Kris, Osborn, “Marine Corps Sending Tanks, Artillery and Combat Vehicles to Bulgaria,” *Military.Com*, 17 August 2015.

⁵ Each sector portrays a different situation or the same situation with different force mixes. The CBCC is easily extended to add sectors, longer time periods, or use classified data.

⁶ *Congressional Budget Office (CBO)*, “The Army’s Ground Combat Vehicle and Program Alternatives,” (Washington, DC; GPO, 2013), page 28.



VS



Baltic Littoral Warfighting
Scenario:
The Reconnaissance Strike
Group (*RSG*) in Simulation
Modeling

Presentation to
General (ret) Carter Ham, U.S.
Army, Chairman
National Commission on the
Future of the Army (NCFA)
7 September 2015

By
Douglas Macgregor
Col (R), PhD
EVP, Burke-Macgregor Group, LLC (BMG)



1. What you should take away from this presentation;
2. *The Reconnaissance Strike Group: An alternative Army Force Design;*
3. A Primer on Simulation Modeling;
4. Combat in the Baltic Littoral: Russian Plan of Action;
5. Simulation Models 1-4;
6. Why did the RSG perform so well?
7. Summary and Recommendations.

(Backup Slides with Simulation Data on attached CD)

What you should take away from this presentation:

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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).

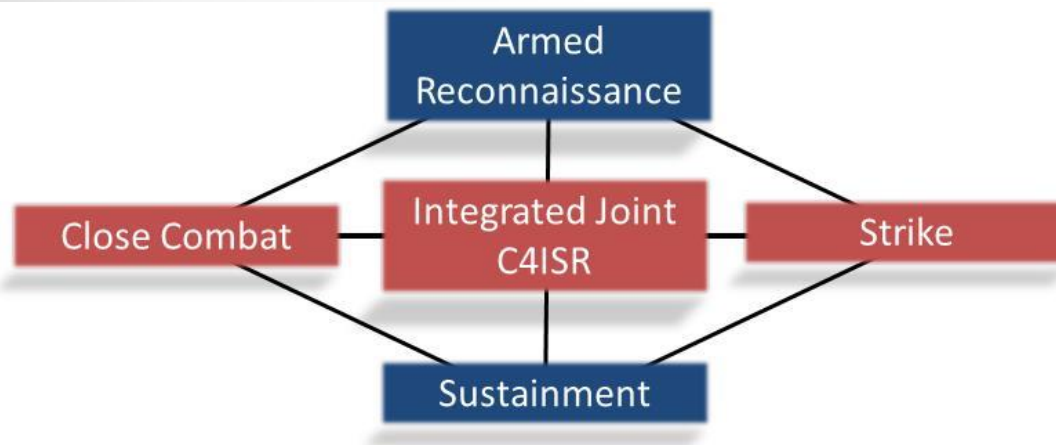
In 5 Days of simulated combat against attacking Russian Independent Brigades (23,000 troops):

- 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.



The Reconnaissance Strike Group (RSG): An Alternative Army Force Design

Burke-Macgregor Group LLC



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

- ✓ RSG is a self-contained, mobile armored combat formation of 5,500 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 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.

A Quick Primer on Simulation Modeling:



X



X



X



X



X



X



X



X



Recon Strike Group

US Army Armor BCT

US Army Stryker BCT

US Army Fires Brigade (Artillery)

US Army Combat Aviation Brigade (Helicopters)

Sustainment Brigade (Division Support)

Russian Independent Tank Brigade (T-90)

Russian Independent Motorized Rifle Brigade (BMP)

Russian Artillery Brigade

The *StrongPoint Combat Power Builder and Combat Calculator (CBCC)* rapidly evaluates competing force designs and courses of action in an experimental, classroom or field training environment;

- The simulation evaluates platform and unit effectiveness, then, models combat interactions.
- Values are summed for each type of equipment, then, aggregated to create unit scores.
- Geographical factors including terrain and climate increase or decrease a unit's combat power.
- Mission posture (attacking or defending), leadership (C2), logistics, the EW/Cyber Environment and an air power effect (from dominance to parity, to ineffective) are also factored into the calculus.
- All data used are based on open sources, but classified information can be used if desired.

Scenario: Combat in the Baltic Littoral: Russian Plan of Action

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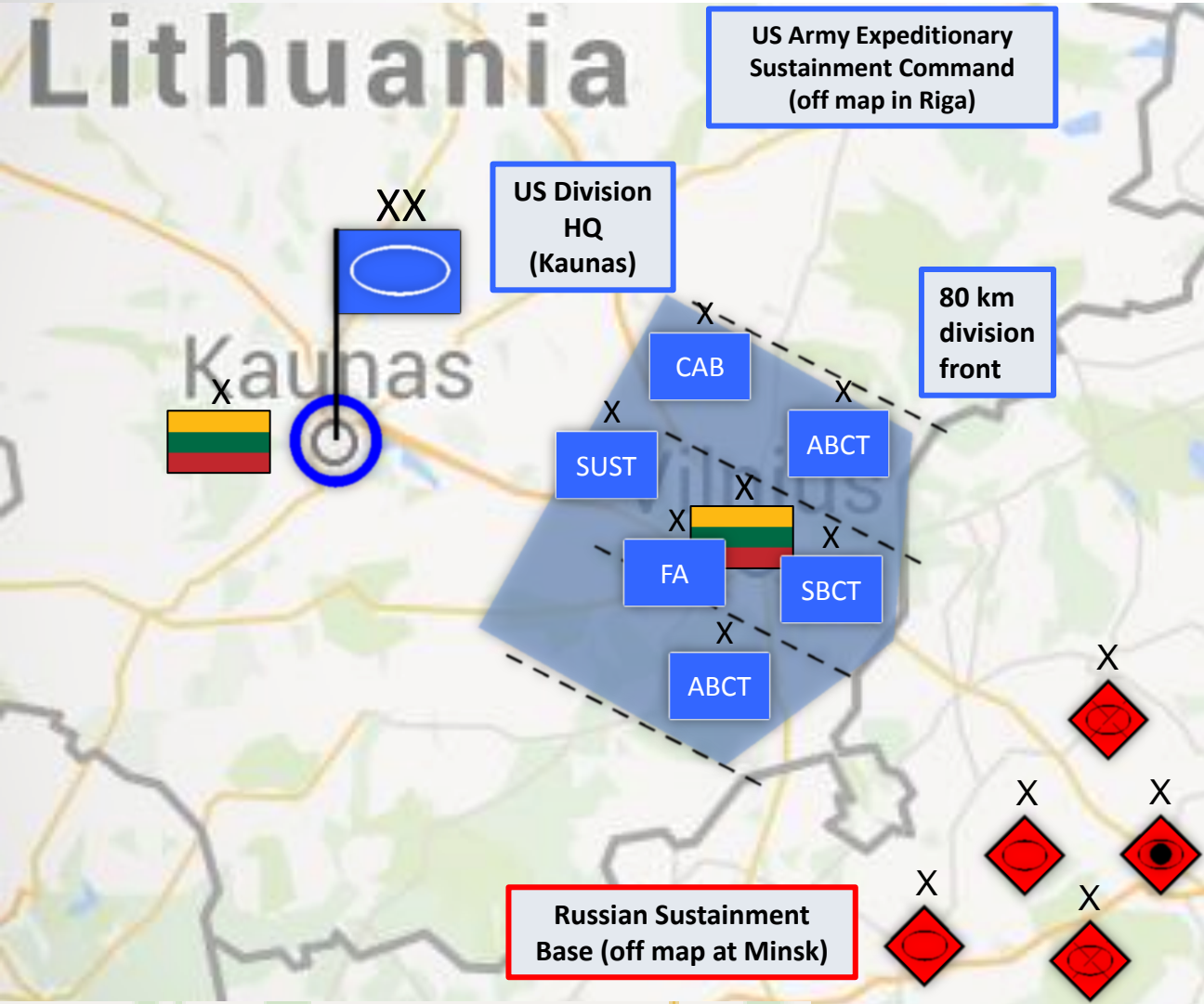
Road to War

- ✓ Moscow threatens intervention to protect Russian populations in Estonia and Latvia from "Fascist Forces."
- ✓ NATO Council is divided on question of action.
- ✓ Russian Force Buildup in Western Military District triggers mobilization in Estonia, Latvia, Lithuania and Poland.
- ✓ Washington responds by deploying air, ground and naval forces over 10 days.
- ✓ U.S. Army Forces deploy through Riga.

Simulation Model #1: US Army BCTs vs. Russian Independent Brigades

Burke-Macgregor Group LLC

Lithuania



100 km

Aggregate Forces In Simulation Area of Interest :

U.S. Forces: ~24,000 troops (Armor Division Equivalent)
 Tanks: 174
 IFVs: 302
 Strykers: 180
 Guns & Mortars: 144
 MLRS: 36
 Air Defenses: 0
 Attack Helos: 96

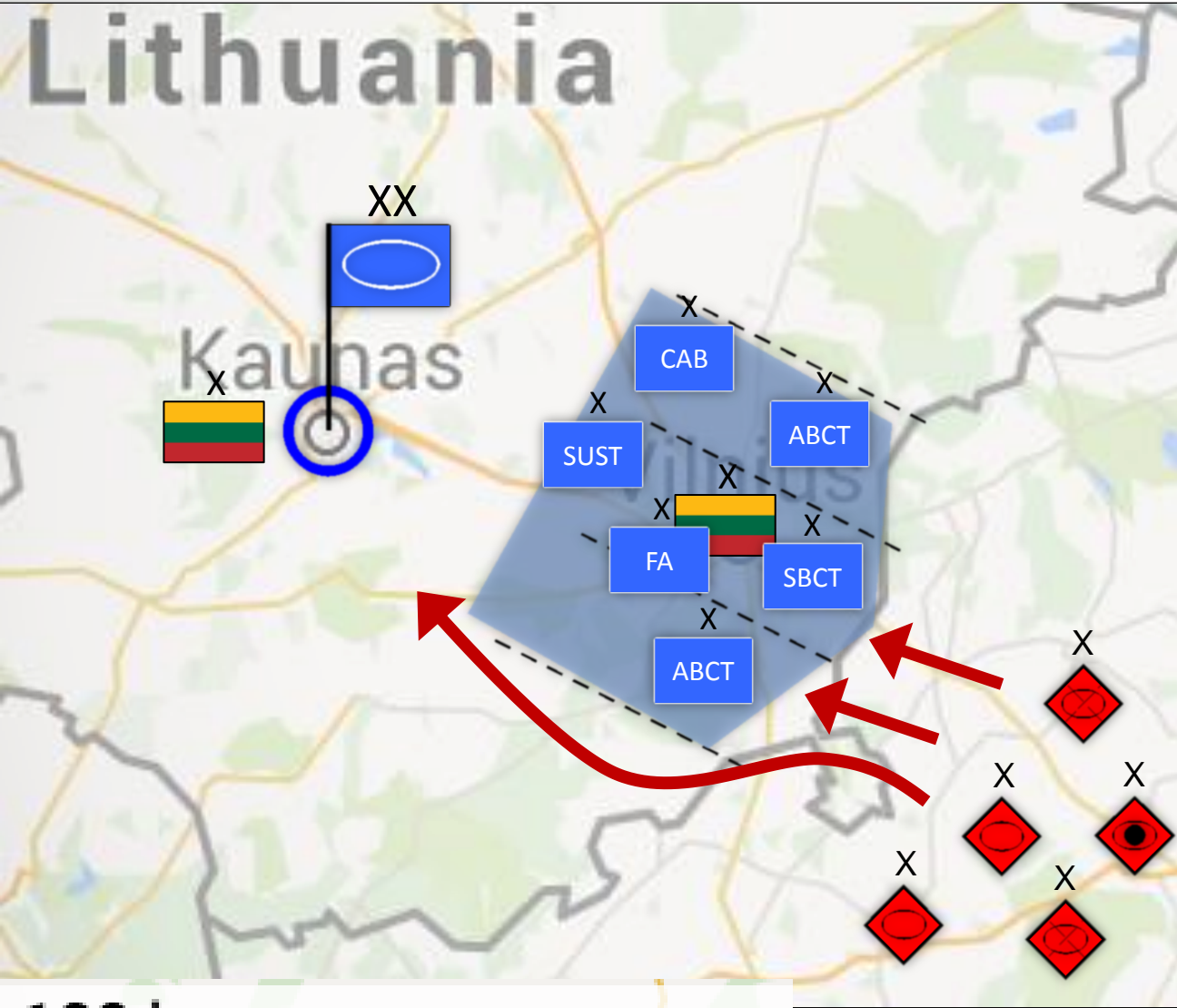
Lithuanian Forces: ~6,000 troops
 Tanks: 0
 AFVs: 220
 Guns & Mortars: 179
 Rocket Artillery: 0
 Air Defenses: 0
 Attack Helos: 0

Russian Forces: ~23,000 troops
 Tanks: 410
 AFVs: 488
 Guns & Mortars: 252
 Rocket Artillery: 118
 Air Defenses: 80 SA-8/11/13/14/15, ZSU23-4
 Attack Helos: 40

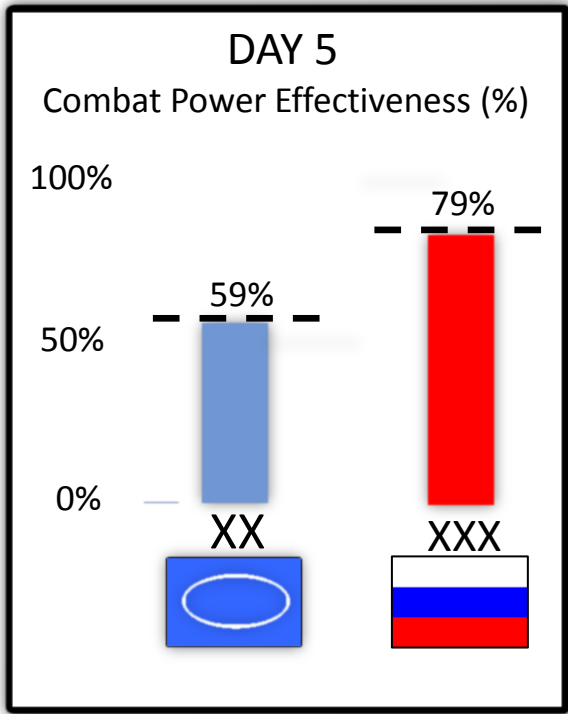
Simulation Model #1: US Army BCTs vs Russian Independent Brigades (Day 5)

Burke-Macgregor Group LLC

Lithuania



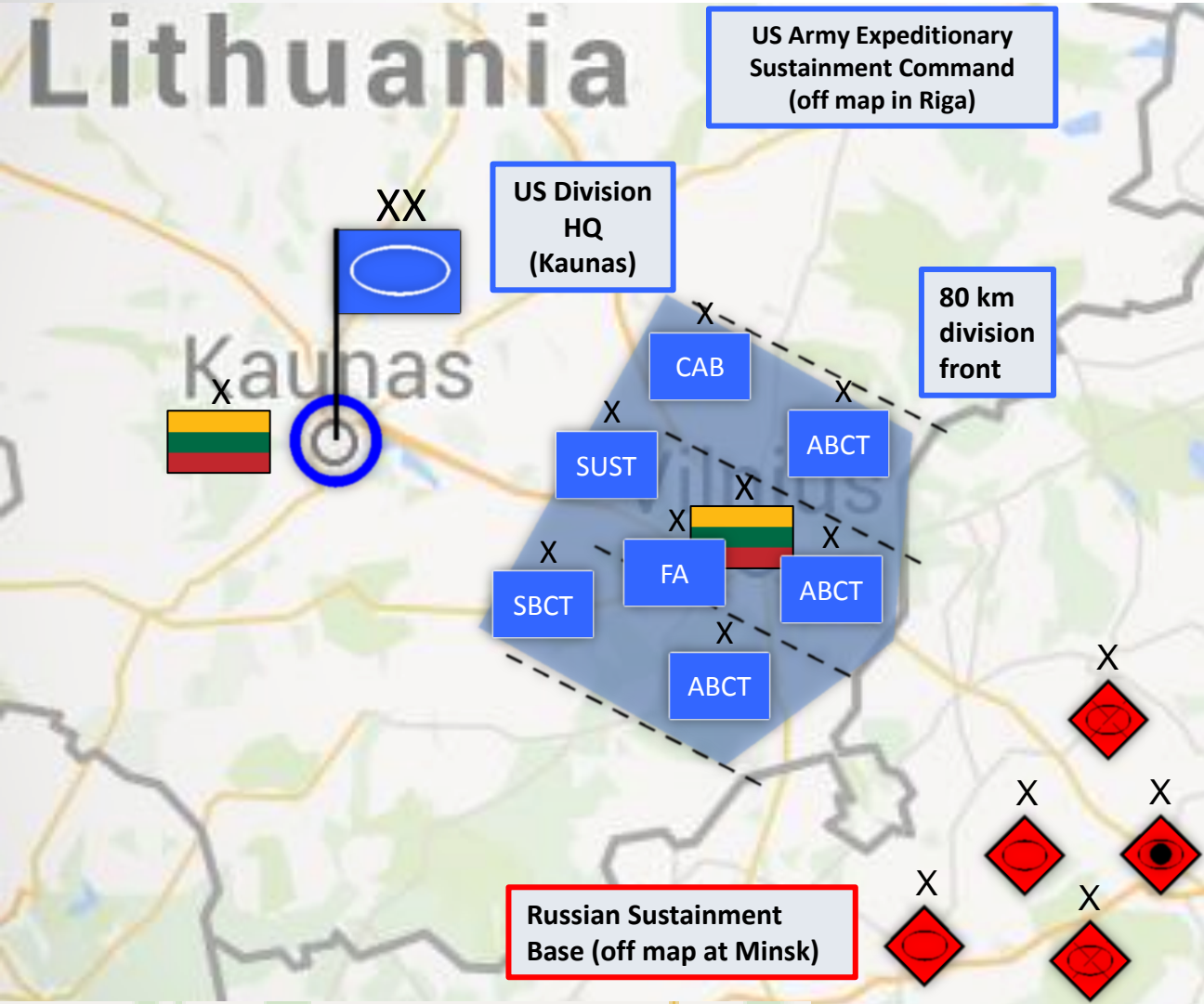
- (3) BCTs+ (Division Equivalent) defends in sector.
- (1) Lithuanian Brigade Defends Vilnius.
- (5) Russian Independent Brigades attack, then, attempt to bypass U.S. forces and strike deep.



Simulation Model #2 US Army: 3 ABCTs, 1 SBCT vs. Russian Independent Brigades

Burke-Macgregor Group LLC

Lithuania



100 km

Aggregate Forces In Simulation Area of Interest :

U.S. Forces: ~28,500 troops (Armor Division Equivalent)

- Tanks: 261
- IFVs: 453
- Strykers: 180
- Guns & Mortars: 180
- MLRS: 36
- Air Defenses: 0
- Attack Helos: 96

Lithuanian Forces: ~6,000 troops

- Tanks: 0
- AFVs: 220
- Guns & Mortars: 179
- Rocket Artillery: 0
- Air Defenses: 0
- Attack Helos: 0

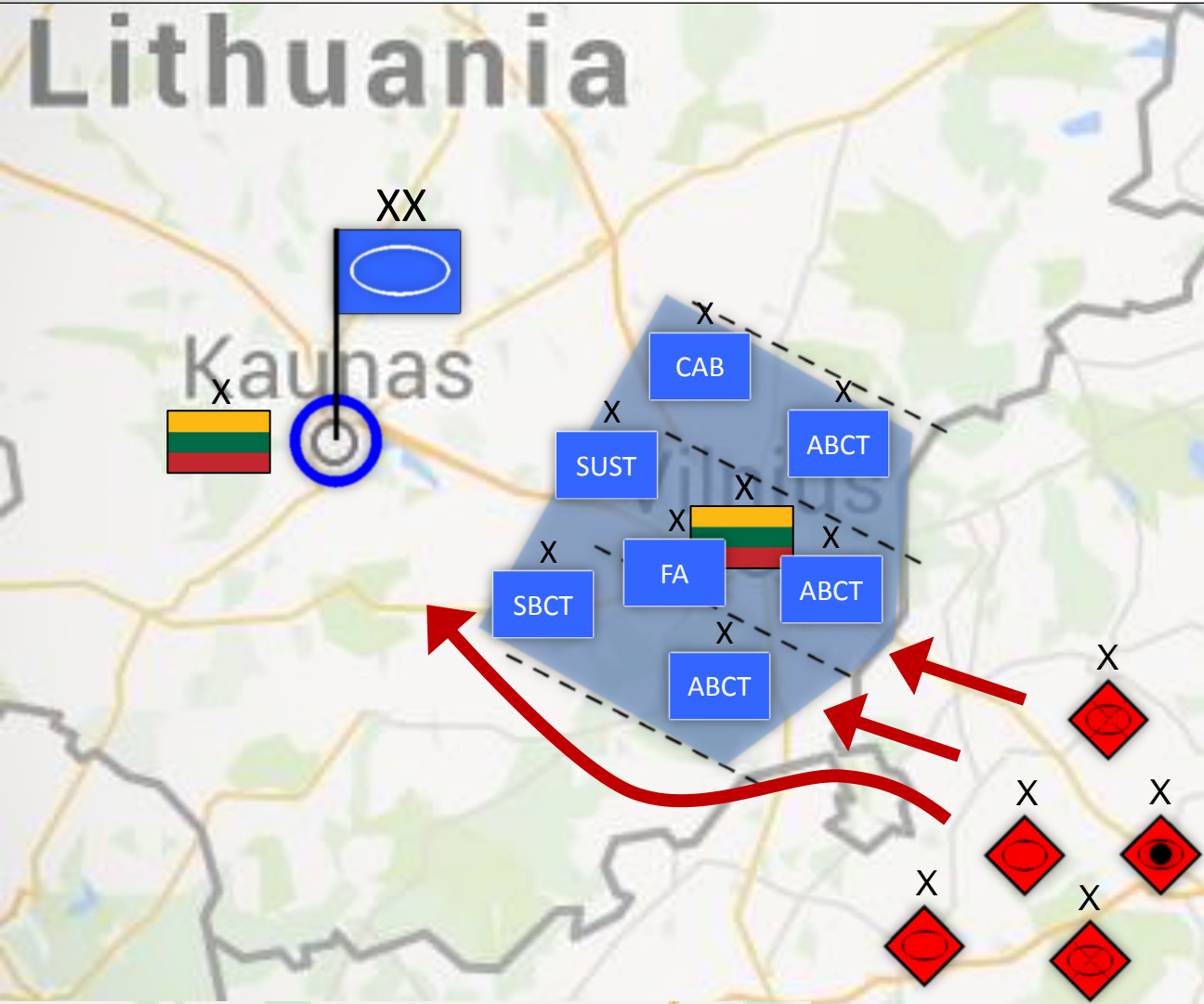
Russian Forces: ~23,000 troops

- Tanks: 410
- AFVs: 488
- Guns & Mortars: 252
- Rocket Artillery: 118
- Air Defenses: 80 SA-8/11/13/14/15, ZSU23-4
- Attack Helos: 40

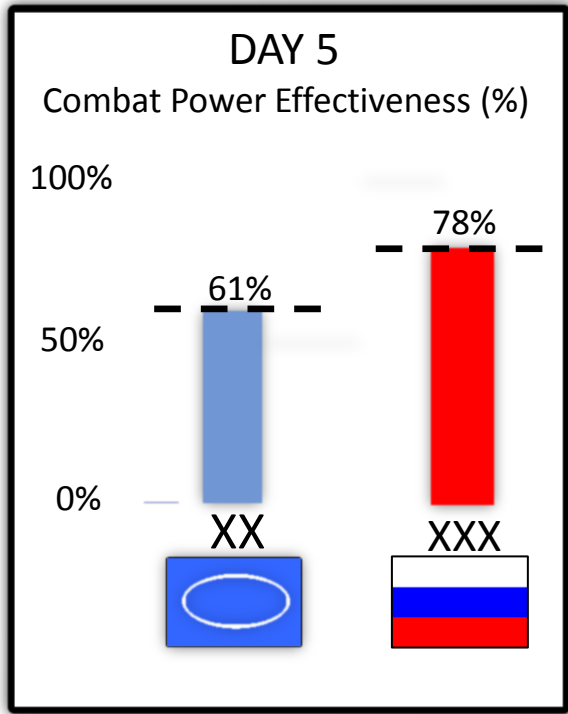
Simulation Model #2: US Army 3 ABCTs, 1 SBCT vs Russian Independent Brigades (Day 5)

Burke-Macgregor Group LLC

Lithuania



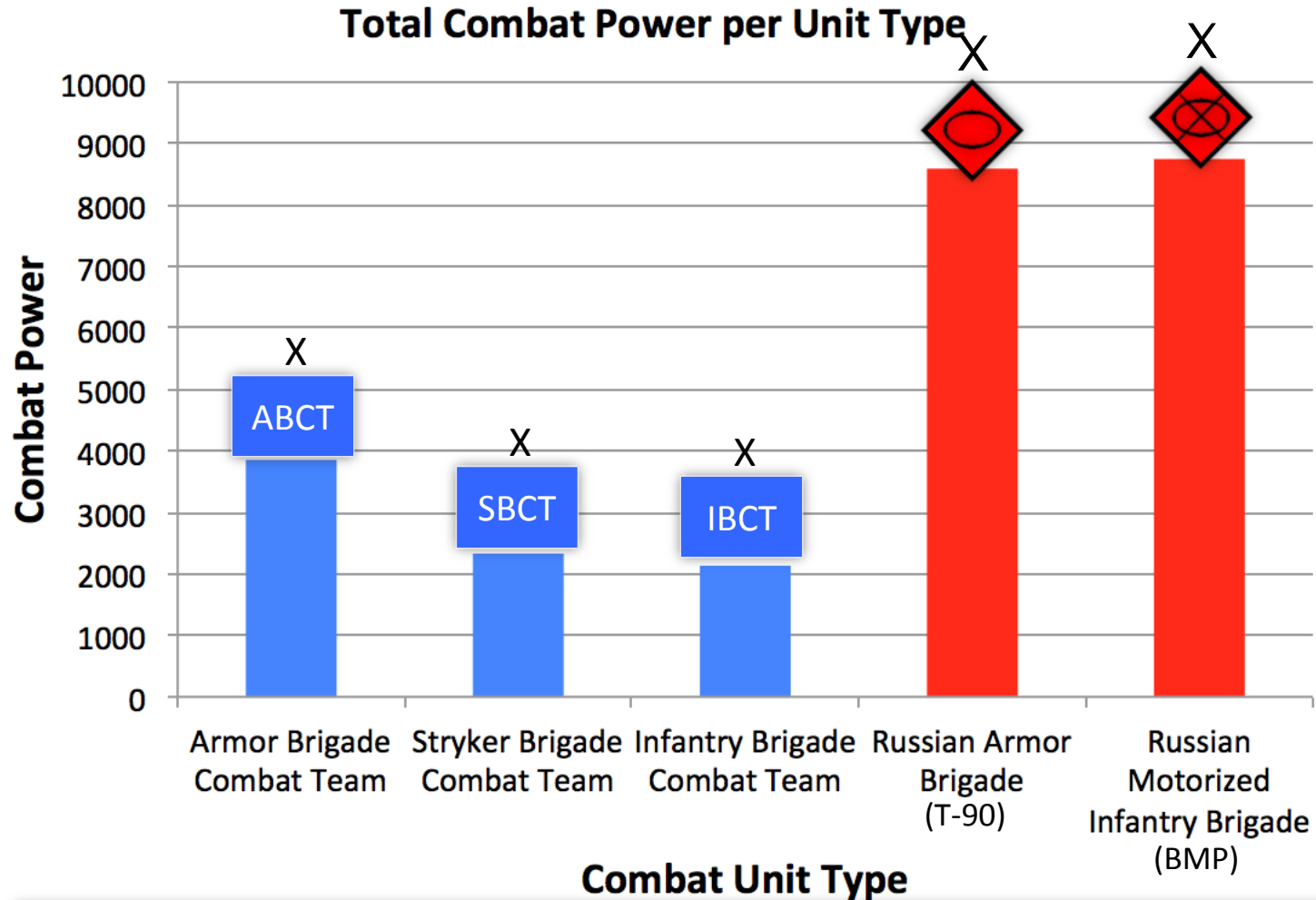
- (3) ABCTs (Division Equivalent) + (1) Stryker BCT defend in sector.
- (1) Lithuanian Brigade Defends Vilnius.
- (5) Russian Independent Brigades attack, then, attempt to bypass U.S. forces and strike deep.



100 km

Army BCTs versus Russian Independent Brigades:

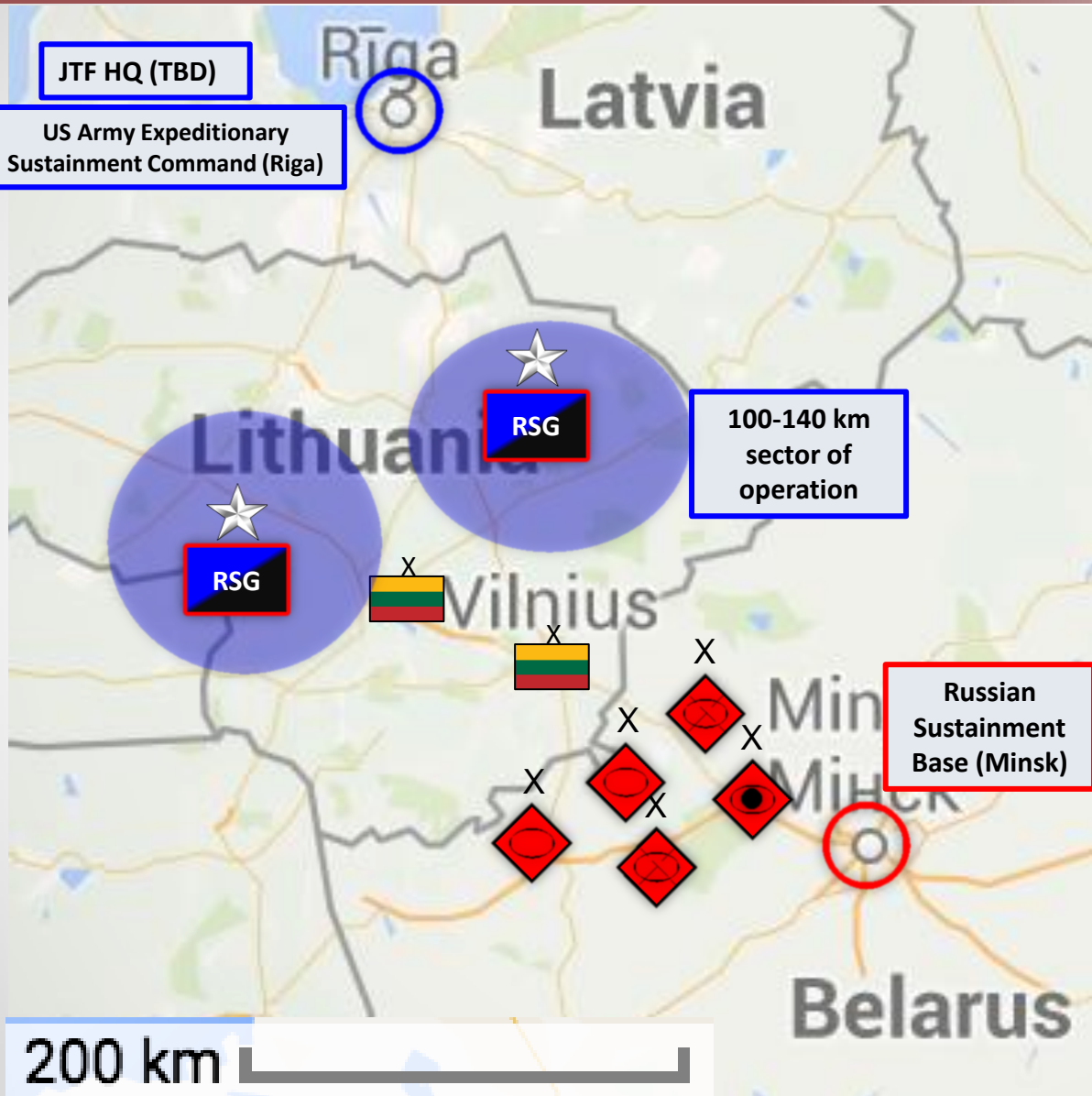
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Even at 100% strength, the US Army BCTs contain substantially less combat power than Russian Independent Brigades

Simulation Model #3: Two RSGs vs. Russian Independent Brigades

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Aggregate Forces In Simulation Area of Interest :

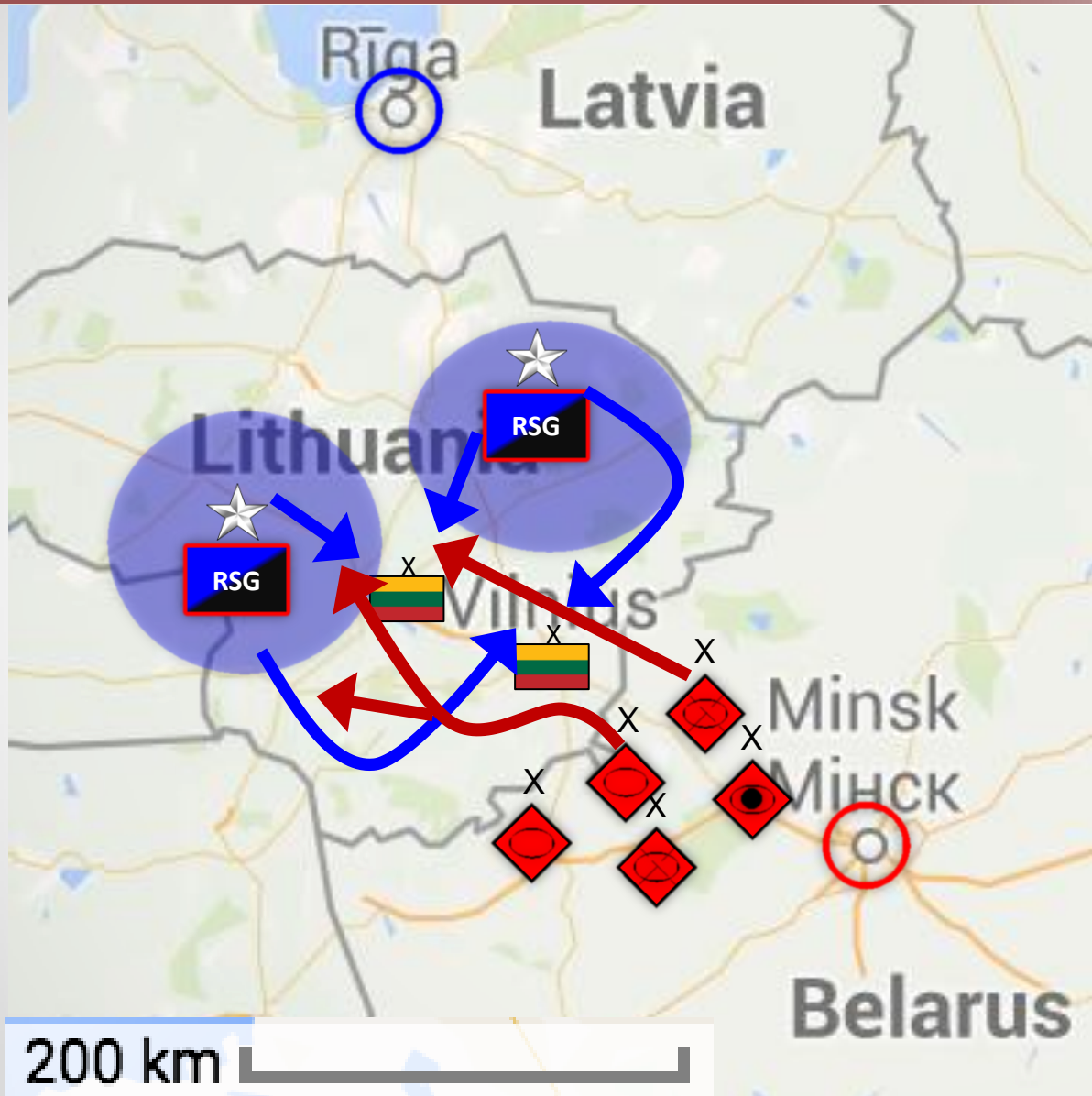
U.S. Forces: 11,000 troops (2 RSGs)
 AGS Puma: 322
 IFV Puma: 484
 AMOS Mortars: 120
 MLRS: 24
 TARES: 48
 Air Defenses: 46 Sky Rangers, 36 NASAMS
 Attack Helos: 24

Lithuanian Forces: ~6,000 troops
 Tanks: 0
 AFVs: 220
 Guns & Mortars: 179
 Rocket Artillery: 0
 Air Defenses: 0
 Attack Helos: 0

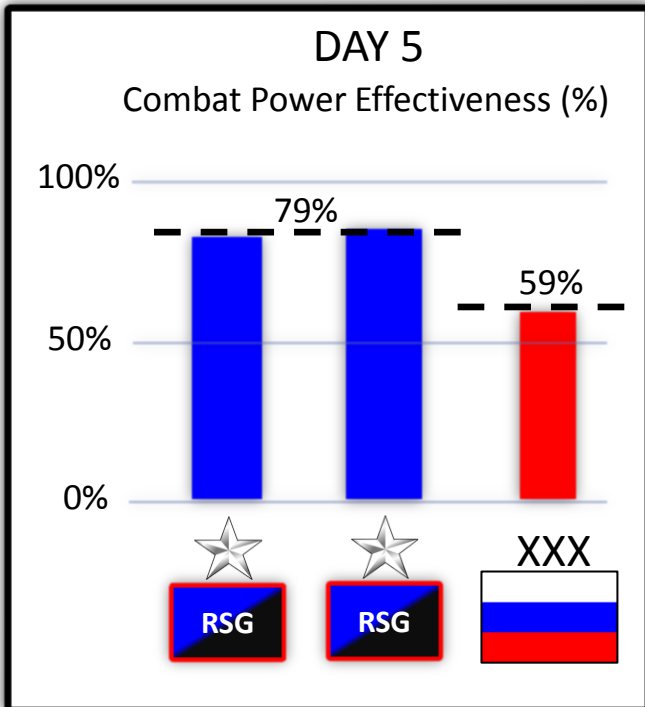
Russian Forces: ~23,000 troops
 Tanks: 410
 AFVs: 488
 Guns & Mortars: 252
 Rocket Artillery: 118
 Air Defenses: 80 SA-8/11/13/14/15, ZSU23-4
 Attack Helos: 40

Simulation Model #3: Two RSGs vs Russian Independent Brigades (Day 5)

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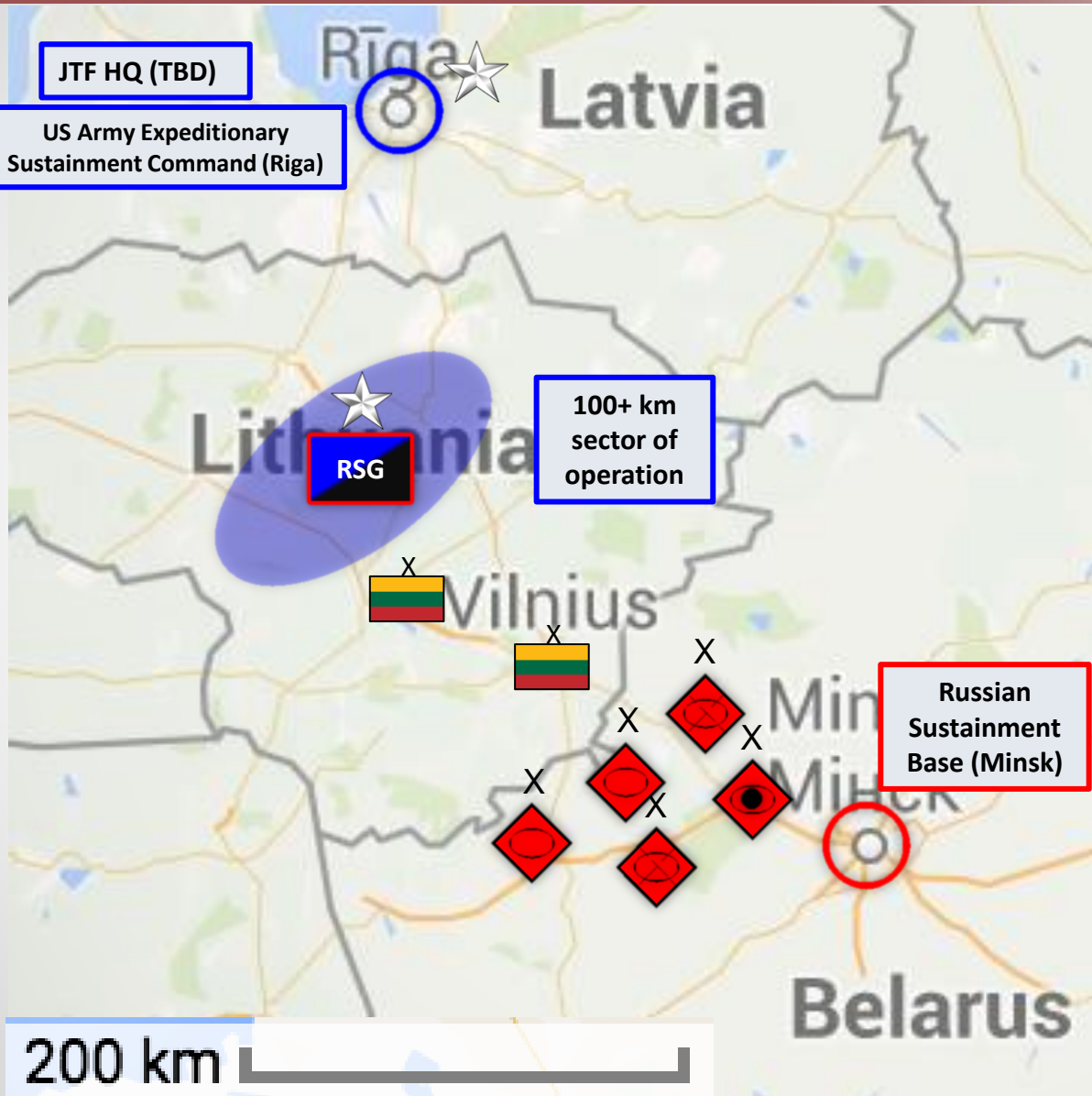


- 1) Russian forces attack on a direct front axis.
- 2) 2 RSGs maneuver to attack Russian forces.
- 3) Lithuanian BDE defends Vilnius.
- 4) Russian Force attempts to bypass and is destroyed.



Simulation Model #4: One RSG vs. Russian Independent Brigades

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Aggregate Forces In Simulation Area of Interest :

U.S. Forces: 5,500 troops (1 RSG)
AGS Puma: 161
IFV Puma: 242
AMOS Mortars: 60
MLRS: 12
TARES: 24
Air Defenses: 23 Sky Rangers, 18 NASAMS
Attack Helos: 12

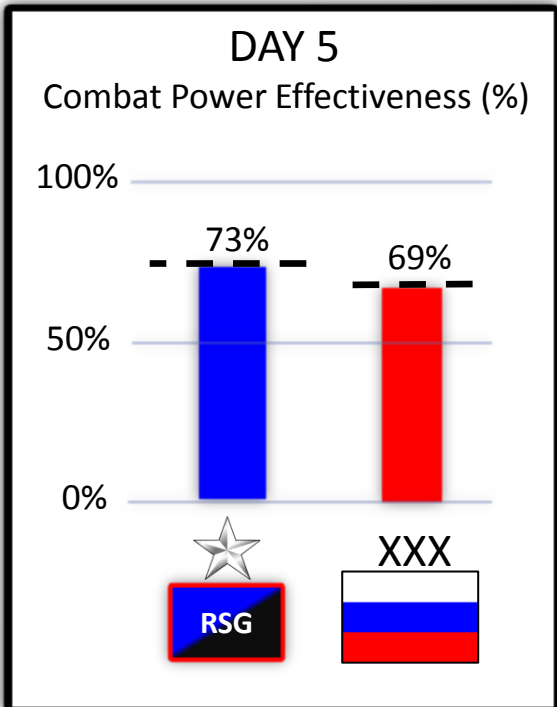
Lithuanian Forces: ~6,000 troops
Tanks: 0
AFVs: 220
Guns & Mortars: 179
Rocket Artillery: 0
Air Defenses: 0
Attack Helos: 0

Russian Forces: ~23,000 troops
Tanks: 410
AFVs: 488
Guns & Mortars: 252
Rocket Artillery: 118
Air Defenses: 80 SA-8/11/13/14/15, ZSU23-4
Attack Helos: 40

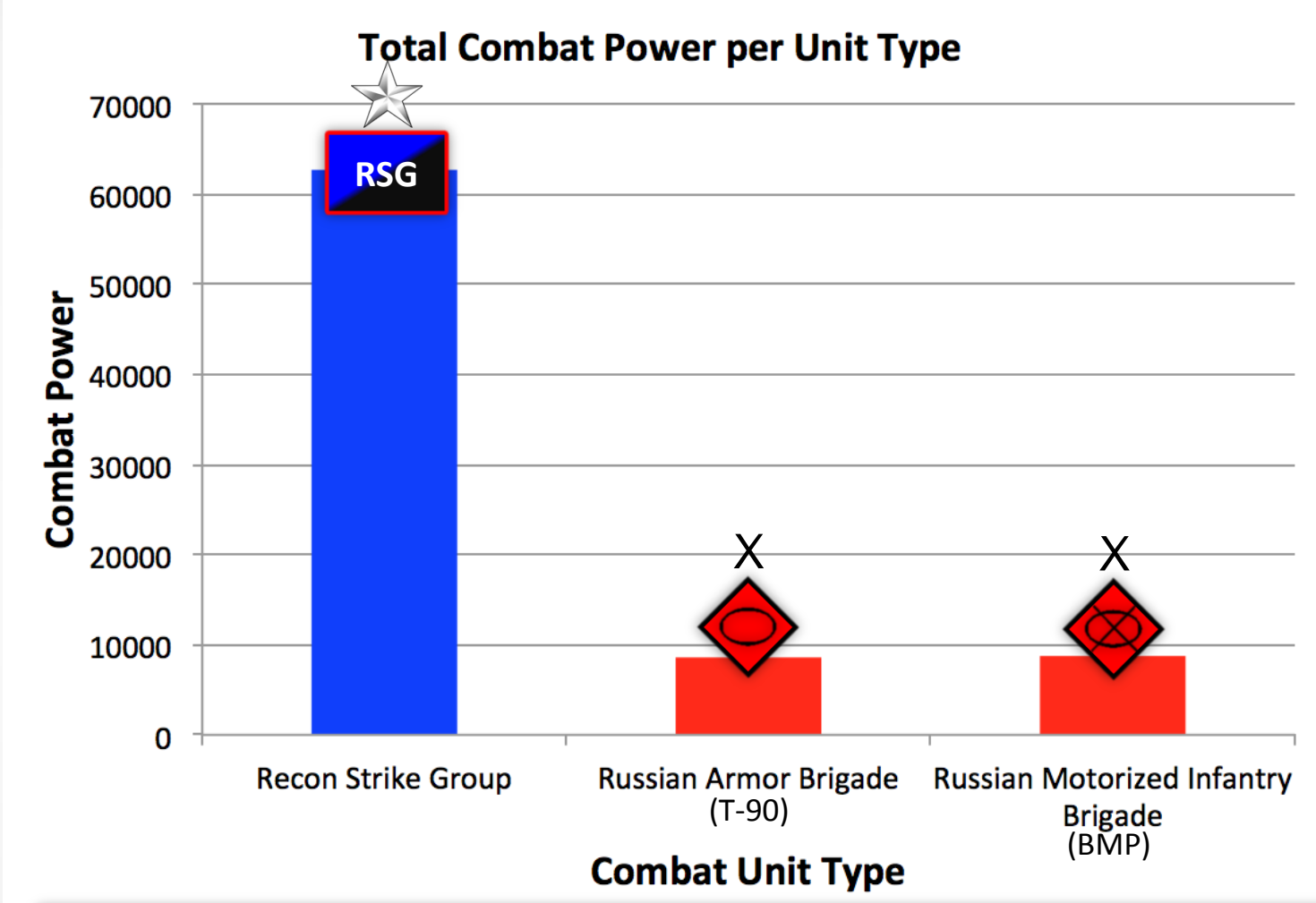
Simulation Model #3: One RSG vs Russian Independent Brigades (Day 5)



- 1) Russian forces attack on a direct front axis.
- 2) RSGs maneuver to attack Russian forces.
- 3) Lithuanian BDE defends Vilnius.
- 4) Russian Force attempts to bypass and is destroyed.



Combat Power Comparison of RSG with Russian Independent Brigade Formations:



RSG contains 6X more combat power than Russian Independent Brigades

Why did the RSG perform so well against the Russian Force?

**Strategic
Assumptions**

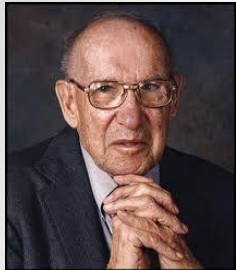
**New
Operational
Concept**

**New Force
Missions**

**New Force
Design &
Capabilities**

**New Force
Development /
Management /
Employment Paradigm**





“If you want something new, you have to stop doing something old... People in any organization are always attached to the obsolete.”

Peter Drucker, *Management Challenges for the 21st Century*, 1999

The RSG Force Design:

- ✓ Provides significantly more combat power per metric ton, (*more bang for the buck*);
- ✓ Plugs directly into Joint Task Force without intervening Division HQTRS (*more combat power with faster decision cycle under fewer HQTRS*);
- ✓ Provides *full spectrum rapid prototyping* of the operational capability, not just the technology (new force design);
- ✓ Mitigates risk, saves money and speeds up delivery to the force by *leveraging a mature, state-of-the art platform*.
- ✓ Results in more combat power at lower procurement and life cycle costs.



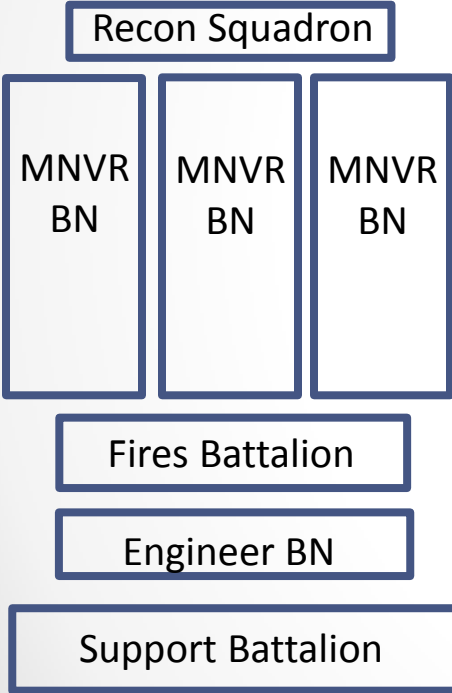
Organization:

RSG vs BCT

Industrial Age: BCT inside a Division (1942 Construct)



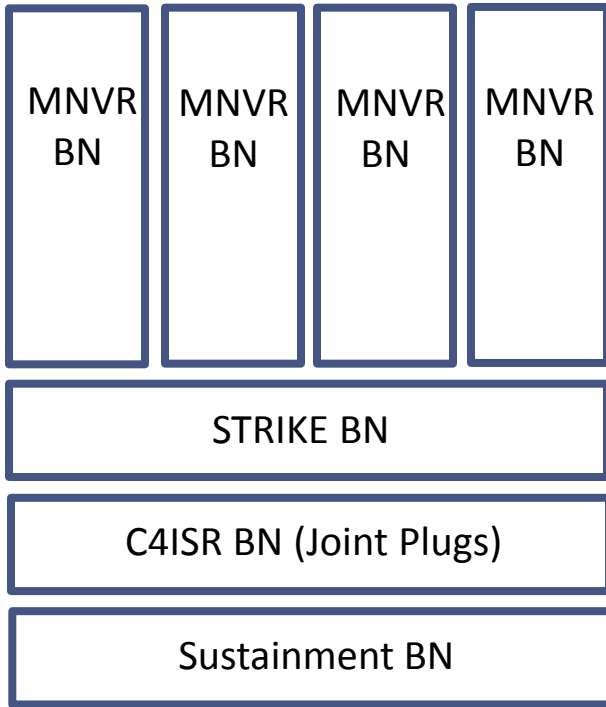
Colonel Commands 4-4,500 troops



Post-Industrial : RSG for Independent Operations



BG Commands 5,500 troops



- ✓ The future Army must be resilient, survivable, effective and act as a Joint enabler across a range of alternative futures.
- ✓ The RSG is a self-contained organization for combat; organized around *ISR, Strike, Maneuver* and *Sustainment*.
- ✓ The RSG is designed to “Stand Alone ” inside a *Lego-like Joint Force Design*.
- ✓ It’s a blueprint for all Army Formations—*ISR, Strike, Maneuver* or *Sustainment*.

What's different about the RSG? A Snapshot:

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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 Smooth Bore Cannon. *The system is fielded*

One RSG contains 242 '30mm' and 161 '120mm' 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 60 '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.

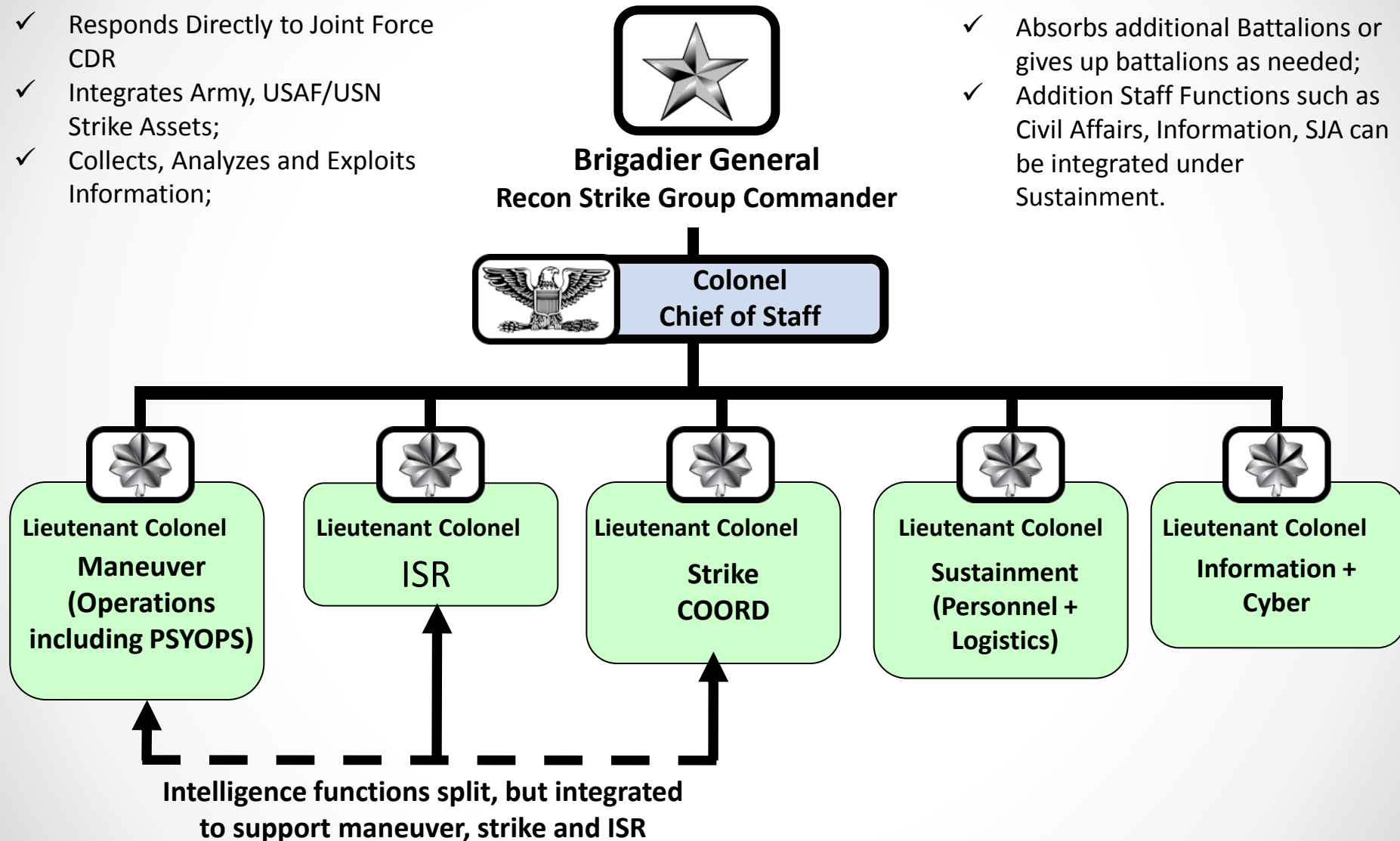
Note: Aviation Component in Strike BN plus complete inventory in backup slides.

RSG C2 is designed for independence:

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

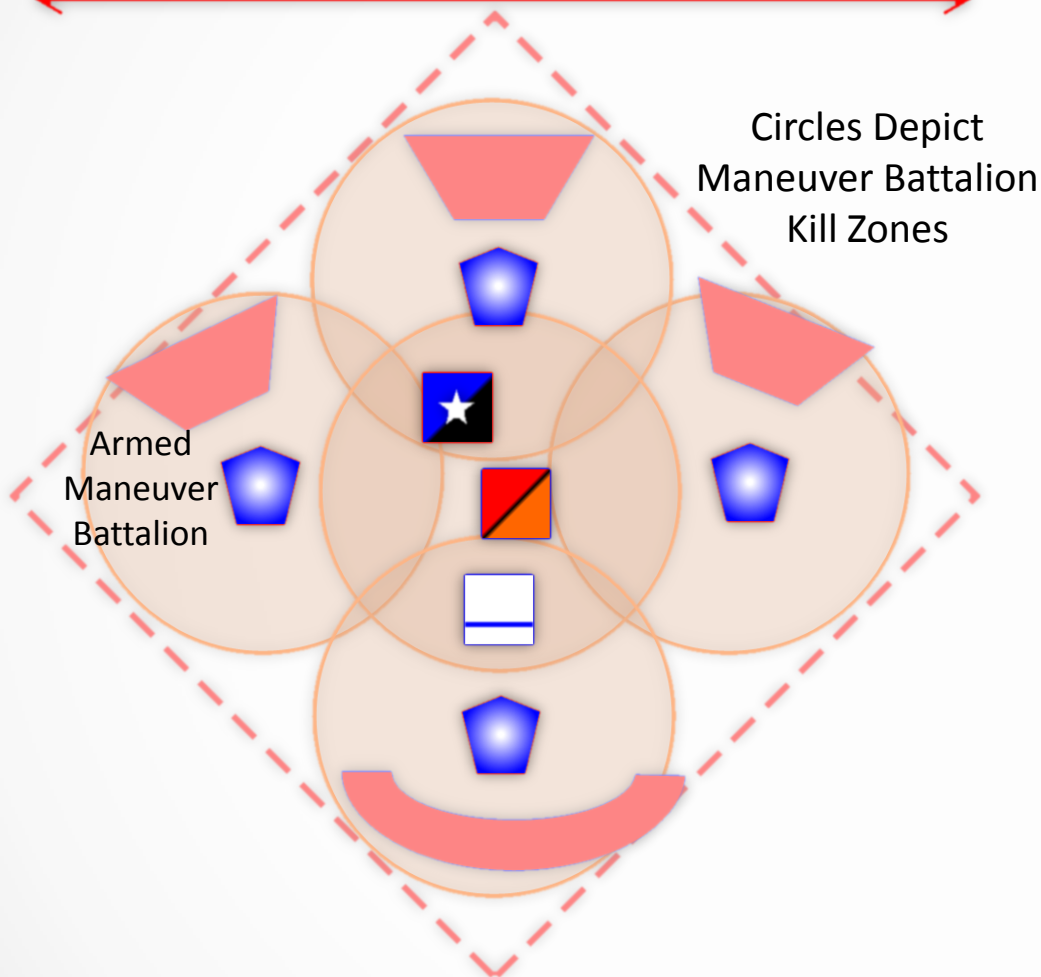
- ✓ Absorbs additional Battalions or gives up battalions as needed;
- ✓ Addition Staff Functions such as Civil Affairs, Information, SJA can be integrated under Sustainment.



The RSG: How it Fights

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60-80 km front w/ 80-100 km zone/sector of operation
(terrain dependent)



RSGs' defense of Lithuania is mobile and offensive in character:

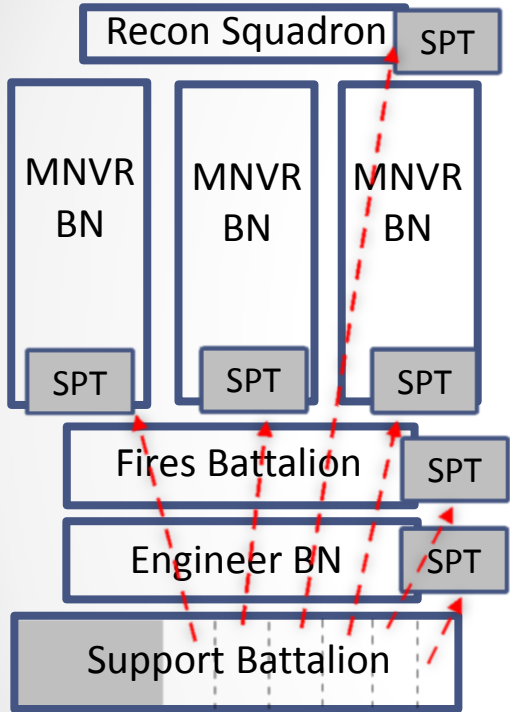
- Focus is on enemy's destruction, not holding ground;
- Russians are expected to penetrate forward defenses;
- RSGs are deployed in depth in a wide arc north, south and west of Vilnius with a light screen forward;
- Mines/Obstacles are emplaced behind the screen;
- Use of medium and long range unmanned ISR and Strike systems is maximized;
- Subordinate elements (battalion battle groups and AH64E aircraft) enjoy freedom to maneuver in depth, to attack advancing Russians in the flanks. (Dispersion to Concentration).

360 degrees warfare demands capability for rapid change in direction. Multiple radars provide layered air defense.

RSG Sustainment: Self Contained Logistics



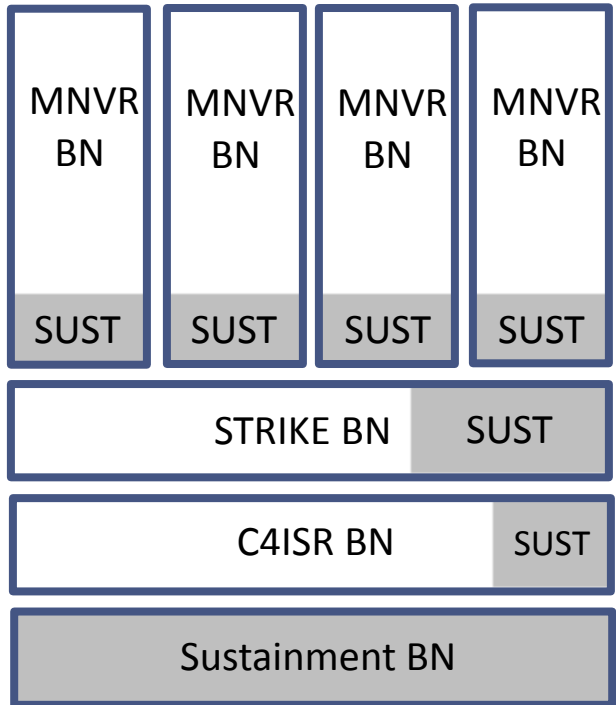
Colonel Commands 4-4,500 troops



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



BG Commands 5,500 troops



43% of all vehicles and soldiers in RSG consist of integrated logistics support.

- ✓ RSG Sustainment Battalion is a whole self standing 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).

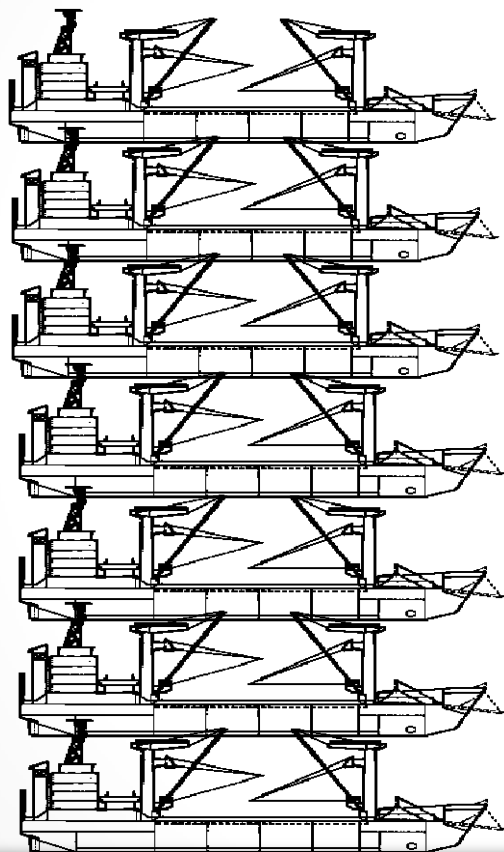
Deployment Requirements:

A Comparison

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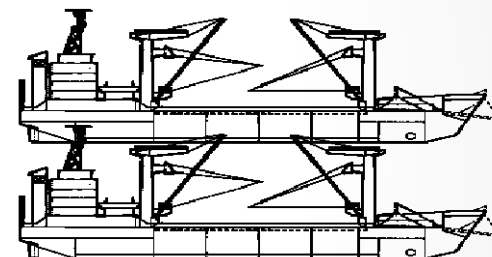
of Large, Medium-Speed Roll-on/Roll-off (LMSR) ships
required to deploy:

X	X
ABCT	ABCT
X	X
ABCT	CAB
X	X
FA	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, by either of CBO’s metrics, the **Puma would provide the greatest overall increase in capability** of the vehicles CBO evaluated.
- Second, although **the least expensive of the options**, the Puma would provide a significant improvement in the Army’s IFV fleet.
- Third, when judged against the current Bradley IFV, the Puma would provide the **greatest increase in capability per dollar invested**, regardless of the metric used.
- And fourth, because the Puma is already being produced, **its adoption would pose a relatively lower programmatic risk.**”

Congressional Budget Office (CBO), “The Army’s Ground Combat Vehicle and Program Alternatives,” (Washington, DC; GPO, 2013), page 28.

Summary of Baltic Warfighting

Scenario Results:

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1. Baltic Scenario 1:

BLUE FORCE DEFENDS: 24,000 US Troops (1) SBCT, (2) ABCTs plus Artillery, Attack Helicopter, and Support Brigades

RED FORCE ATTACKS: 23,000 Troops organized into independent brigades (T-90, BMP, Artillery, Attack Helicopters)

OUTCOME: Day 5, **Blue** 57%, **Red** 80%,

2. Baltic Scenario 2:

BLUE FORCE DEFENDS: 28,500 US Troops (1) SBCT, (3) ABCTs plus Artillery, Attack Helicopter and Support Brigades

RED FORCE ATTACKS: 23,000 Troops organized into independent brigades

OUTCOME: Day 5, **Blue** 59%, **Red** 79%,

3. Baltic Scenario 3:

BLUE FORCE DEFENDS: 11,000 US Troops in (2) RSGs

RED FORCE ATTACKS: 23,000 Troops organized into independent brigades

OUTCOME: Day 5, **Blue** 79%, **RED** 59%,

2. Baltic Scenario 4:

BLUE FORCE DEFENDS: 5,500 US Troops in (1) RSG

RED FORCE ATTACKS: 23,000 Troops organized into independent brigades

OUTCOME: Day 5, **Blue** 73%, **RED** 69%,



“Don't fight the problem, decide it.”

George C. Marshall, General of the Army

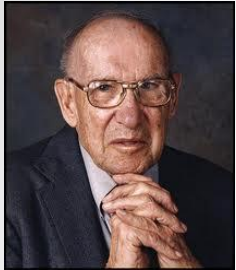
Summary: CBCC Results are dramatic.

- 11,000 U.S. Soldiers inside (2) Reconnaissance Strike Groups decisively defeated the attacking Russian Force (23,000 Russian Soldiers organized into Independent Brigades.)
- 28,500 U.S. Soldiers inside current BCT organizations were defeated by the same attacking Russian Force.

Recommended Actions: Report these findings to the President and Congress of the United States.

- Urge the President to Direct the Chairman of the Joint Chiefs to examine the proposed RSG in simulation using a current, “high fidelity” warfighting scenario.
- Urge the President and Congress to evaluate the potential for U.S.—German Military-Industrial Cooperation to stand up a PUMA-equipped RSG inside the U.S. and German Armies, as well as, production of the PUMA chassis on U.S. soil.

The “about right” combination of *Organization, Technology and Human Capital* is the key to victory in future battle.



“If you want something new, you have to stop doing something old... People in any organization are always attached to the obsolete.”

Peter Drucker, *Management Challenges for the 21st Century*, 1999

Section 1: RSG Equipment

1. The PUMA-based common chassis;
2. The PUMA Armored Gun System Alternative;
3. The PUMA Cost Estimate.

Section 2: RSG Sources and Simulation Modeling Data

1. Key Assumptions;
2. Explanatory Narrative;
3. Simulation Modeling Data.

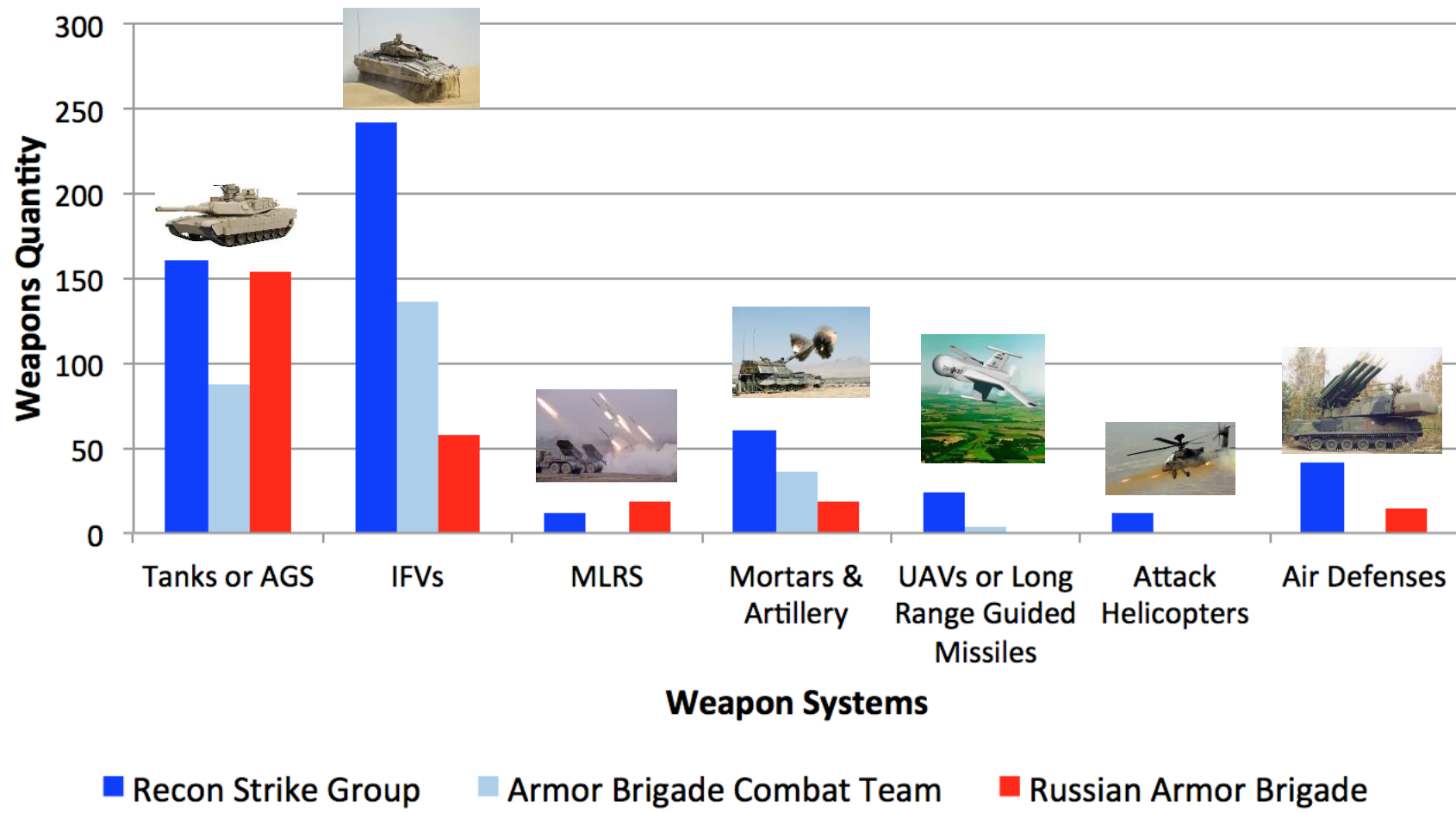
Section 3: RSG Implications for a Reorganized Ground Force

1. The US Army Fighting Force reorganized into Maneuver, Strike, ISR and Sustainment Groups;
2. Rotational Readiness: Key to lowering costs, increasing stability (soldier quality of life) and warfighting readiness;
3. Expeditionary Command and Control.

SECTION 1: RSG EQUIPMENT

RSG, ABCT, and Russian Independent Tank Brigade: Weapon System comparison

Weapons Quantities by Unit Type



RSG contains mix of Strike and Air Defense for self-contained mission capability.



Gross Vehicle Weight (GVW) w/ modular armor: **43 tons**
Weight, level A (Air-transportable by A400M): **31.45 tons**
Crew: **9 (3+6)**

Length - width - height (approx.): **7.6 m / 3.9 m / 3.6 m**

Maximum speed (road), forward/reverse: **70 / 30 kph or 44 / 19 mph**

Engine power: The vehicle is fitted with a new high power density 892 series diesel engine (**1003 HP**). The MTU 892 series is rated at 800kW which provides the Puma with a power-to-weight ratio of 25.4kW/t.

Suspension: **Hydro-Pneumatic**

Turret: **unmanned, remote-controlled**

Main armament: **MK30-2/ABM, cal. 30 mm**

Secondary armament: **MG 4, cal. 5.56 mm**

Guided missile system: **SPIKE LR**

- ✓ The Puma's 1003 horsepower engine is more powerful than a Russian T-90 tank engine.
- ✓ High power to weight ratio of the engine plus superior suspension performance allows the mounting of larger weapon systems creating multi-weapon variants on a single Puma chassis that cannot be achieved with other platforms.
- ✓ A future all terrain, cross country, tracked logistics carrier based on PUMA would be a huge logistics force multiplier. A payload carrying variant would have nearly twice the capacity of the Palletized Loading System (PLS) the Army's supply carrier.

M2 vs Kurganets-25 vs T-15 vs PUMA

Chassis Performance

Burke-Macgregor Group LLC



Performance Capabilities	M2	Kurganets-25	T-15	Puma
Engine Power	600 hp (450 kW)	800 hp (600 kW)	1200 hp (900 kW)	1003 hp (800 kW)
Power to Weight Ratio	19.7 hp/ton	32 hp / ton	30 hp/ton	34 hp/ton
Operational Range	250 miles (400 km)	310 miles (500 km)	340 miles (550 km)	373 miles (600 km)
Speed	35 mph (56 kph)	50 mph (80 kph)	43 mph (70 kph)	44 mph (70 kph)
Length	6.55 meters	7.2 meters	Unknown	7.4 meters
Width	3.6 meters	3.2 meters	Unknown	3.7 meters
Weight	27.6 tons	25 tons	~40 tons	32 tons

NOTE: PUMA accommodates active protection systems too.

Comparable to most IFVs, but lacks engine power to mount heavier turrets.

Uses same engine that powers T-14 main battle tank.

Engine power allows PUMA to Mount larger weapon systems up to mount 120mm Cannon.

The PUMA Armored Gun System (AGS) Alternative:

Burke-Macgregor Group LLC



BAE Systems (formerly United Defense Systems) in York, PA produced a 120mm-equipped AGS called “Thunderbolt.” It was fired/tested repeatedly in stationary and on-the-move tests. It was the first time a 120mm main gun was successfully fired from a 20-ton weight-class chassis. The composite turret armor package is designed to provide 14.5mm protection all around, with 30mm frontal arc protection. The PUMA chassis can integrate and carry this turret far more easily than the 20-ton AGS chassis. PUMA has more ammo storage in its rear compartment.

The PUMA chassis is heavier (32-43 tons), far more survivable and the PUMA 1003 HP engine is more powerful. PUMA is suited to carry a 120mm Gun. Serious attention should be focused on integrating a modified version of the AGS Thunderbolt 120mm Turret into the PUMA.

RSG employs aviation in austere environments without reliance on airfields.

Aviation assets include:

- 12 AH-64E Attack Helicopters

- 12 UH-60 Utility Helicopters

- 2 UAV launchers w/ 4 tactical ISR UAVs

Future improved helicopter designs can be incorporated in RSG.

RSG includes aerial surveillance coverage from modern surveillance UAVs. RSG has two pneumatic launchers. These are sling loaded. (Flight radius of around 1,000+ km, endurance for 15-18 hours, at speeds of 200+ KPH (124 mph)).



The PUMA-Based RSG Cost Estimate

Burke-Macgregor Group LLC

FCS and GCV



Delays and cost overruns. One partially working prototype self-propelled cannon. **Total Cost: ~\$20 billion**

More delays and cost overruns. Design would be heavier than an M1 tank! **Estimated Cost over 5 years before cancellation in Jan 2015: \$29-34 billion.¹**

In the end, nothing of enduring strategic value for the Nation, the Joint Force or the Army resulted from FCS or GCV!

VS

4 X RSG



Total Cost (2015-2016): ~\$21.4 billion²

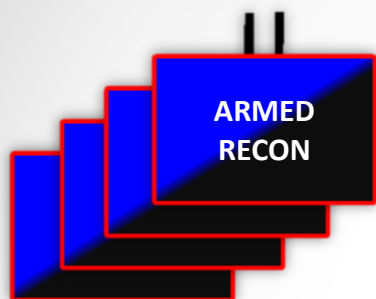


*Actual operational production models. Fielded in Germany, June 2015

Four fully functioning, R&D completed, and ready to field Puma equipped Recon Strike Groups!

¹GAO in 2013 estimates as high as \$37 billion.

²Includes all Puma variants. Cost in 2013 for 4 RSGs: \$20 billion



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



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

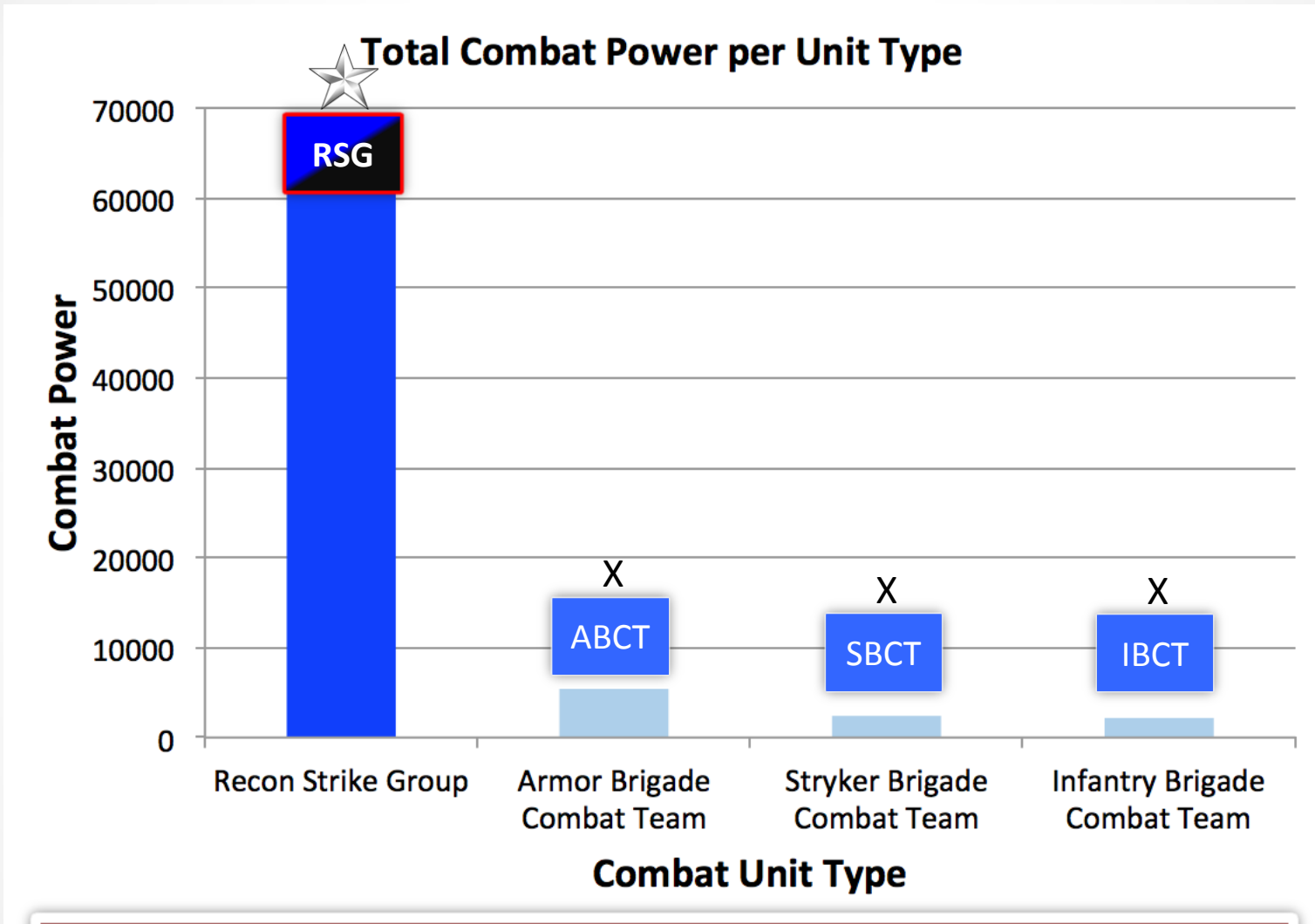


12 UH-60 Blackhawk Helicopters
8 Armored Vehicle Launch Bridge (AVLB)
12 Engineer Assault Vehicles (mine clearing)



58 Medical Evacuation and Treatment Vehicles
48 Forward Repair Shops
228 Palletized Loading Systems (PLS) or Load Handling System (LHS)
132 Large Capacity Fuel Carriers including self contained water
purification system.

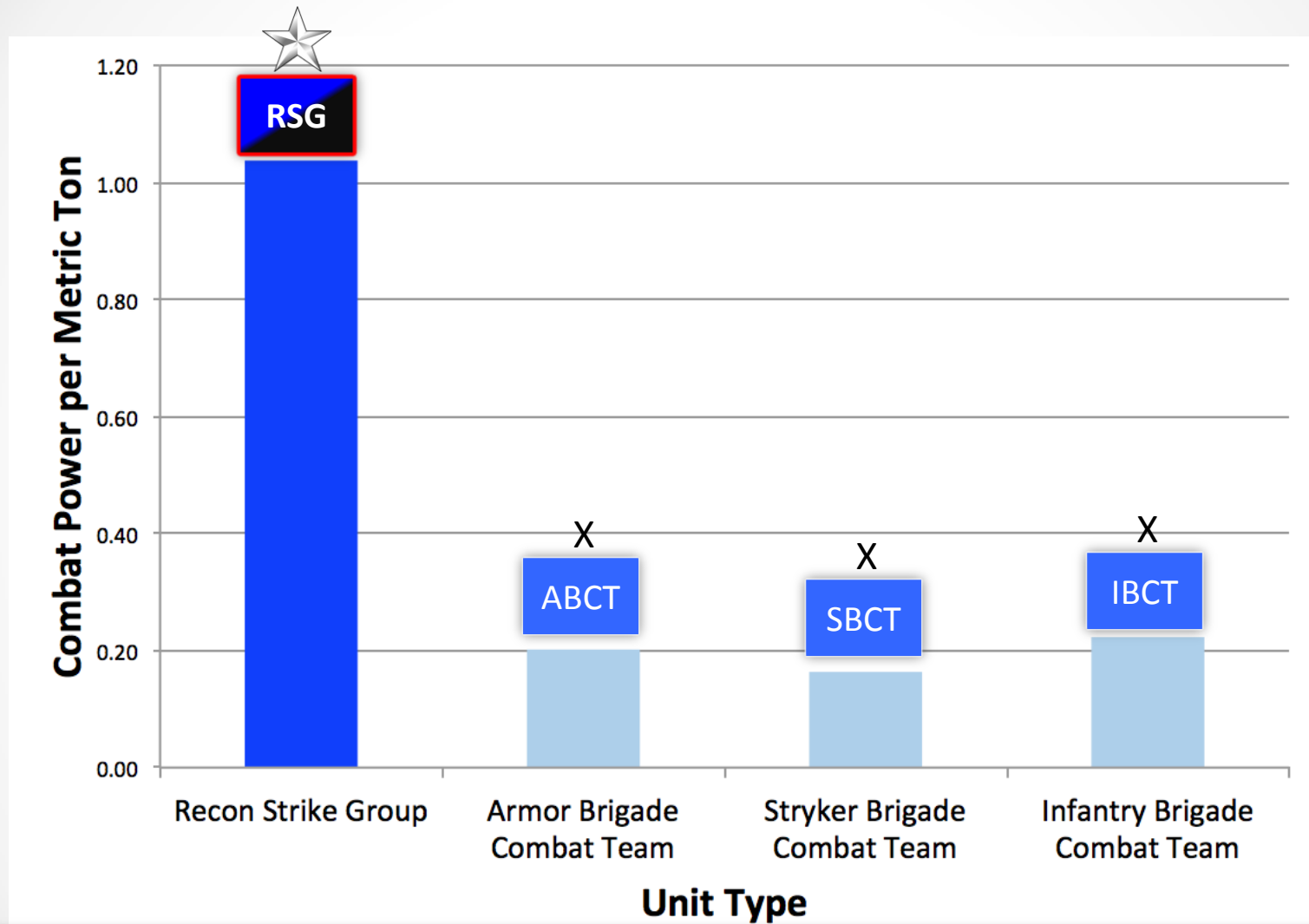
A Combat Power Comparison of RSG with current BCTs:



RSG contains at least 12X more combat power than BCTs.

Comparison: Combat Power Efficiency

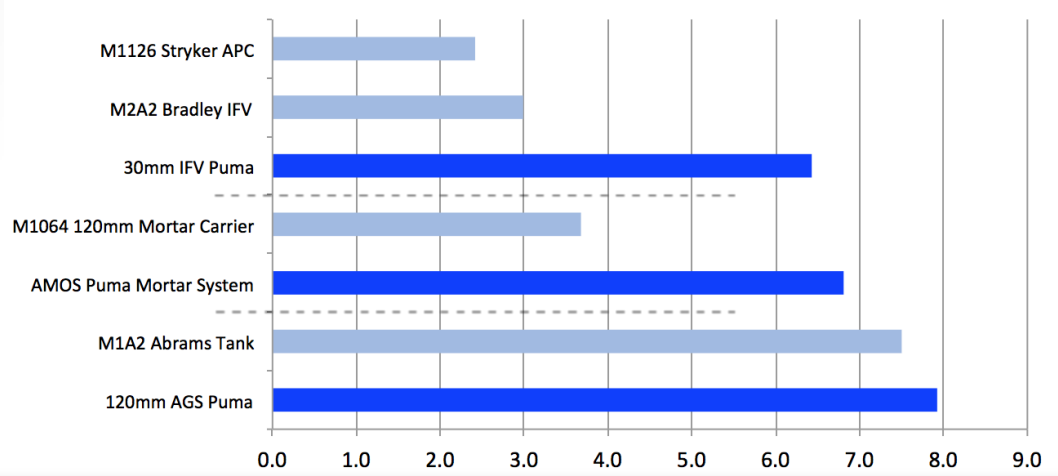
Burke-Macgregor Group LLC



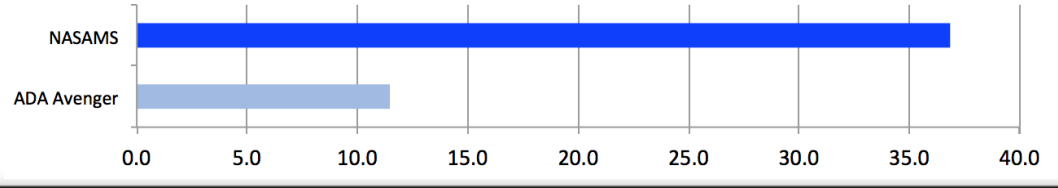
RSG is a significantly more potent fighting unit per metric ton than BCTs.

Combat Power Values by Platform:

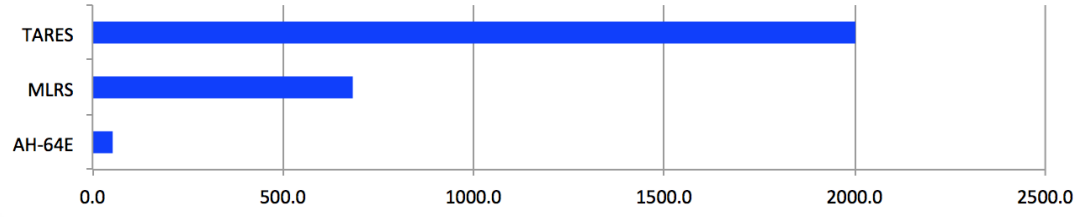
Tactical Combat Systems



Air Defense Systems



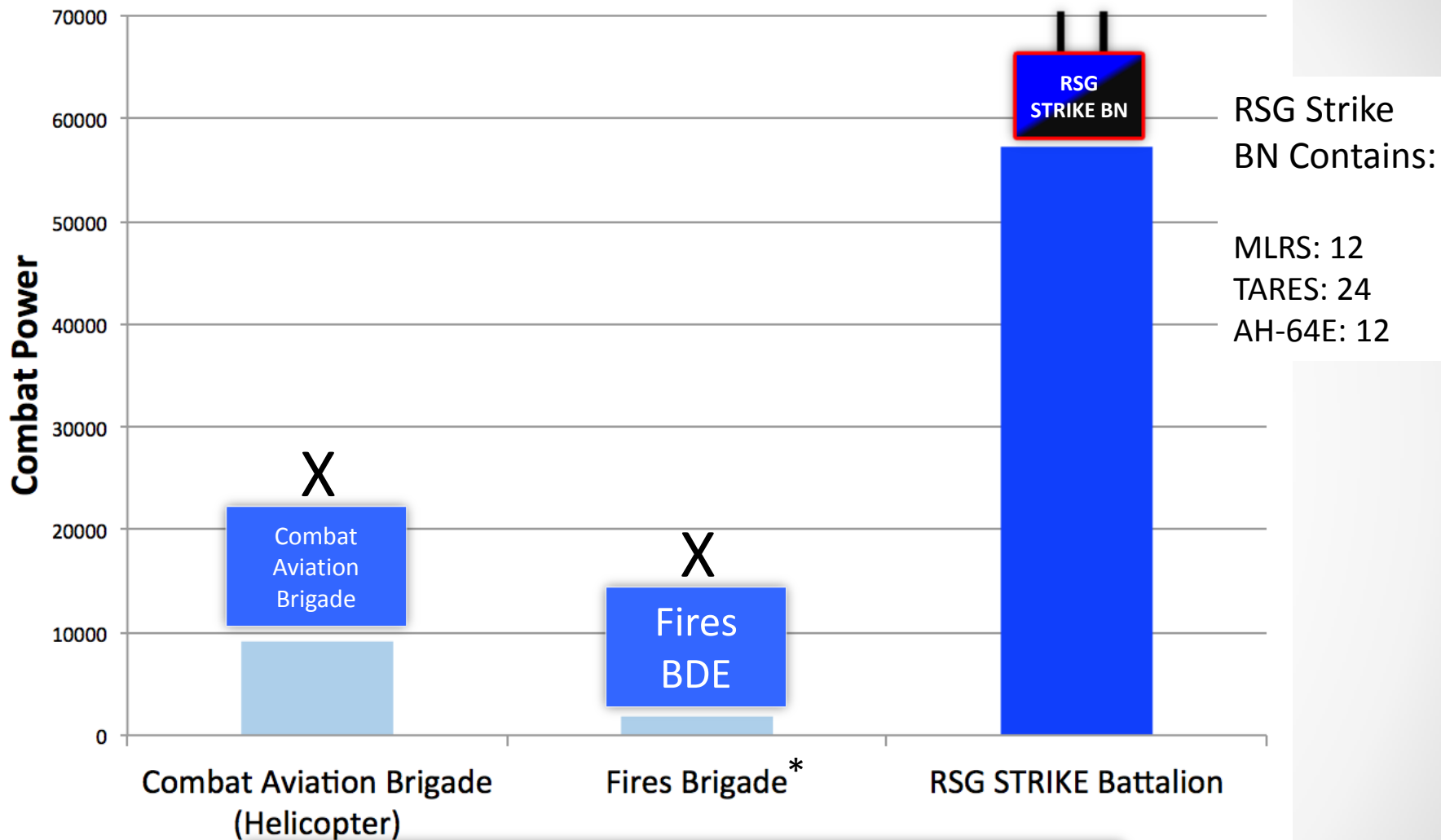
Long Range Strike Systems



■ Recon Strike Group
 ■ Armored Brigade Combat Team

RSG uses weapons developed within the last 5-10 years for greater fighting power.

Combat Power Values of Strike Units



RSG Strike BN has more combat power than either a Combat Aviation Brigade or a Fires Brigade.

*Note: Fires BDE was tested with 2 155mm BNs and 2 MLRS BNs.

SECTION 2: RSG ASSUMPTIONS, EXPLANATORY NARRATIVE, SOURCES AND SIMULATION MODELLING DATA

- Variables: The key variable in the simulation is the type and strength of Blue Force units. Russian forces (variables) are the same for each modeled engagement.
- Air Parity: Russian air defense systems developments will very soon or are already capable of destroying all aircraft from tactical fighters to bombers and including stealth aircraft.
- Starting conditions equal: All from both sides units begin with 100% combat power. Assume full troops and equipment.
- Combat Returns are 20% of previous day's losses: Logistics is assumed to be at full capacity for both sides.
- Combat power is fighting capacity: Combat power percentages are a combination of factors to include troop casualties, equipment loss and regeneration, etc.
- BCTs can only operate on a single Line of Operation: An ABCT has organic fuel capacity for 1 to 1.5 day of supply. The 5 day simulation assumes automatic logistics resupply from sustainment brigade. However to offset this unrealistic condition the BCT was restricted to the realistic constraint that it cannot move independently.
- Each RSG operates on its own Line of Operation: RSG has organic fuel capacity for 10 days of supply and a range of up to 1600 km. As a result, no significant degradation of RSG sustainment in 5 day simulation model.

- Independent maneuvering units can merge their lines of operation upon close proximity or split into multiple depending on maneuvering action: The RSG began as two Lines of Operations, but combined into one Day 5.
- Russian forces operated as a single Line of Operation: In both scenarios Russian forces operated as an operational maneuver group (OMG) equivalent.
- Line of Operation depends on direct contact with combatant forces: Attacking the flanks and rear versus attacking the front can yield different results as each will be attacking different number of units and unit types.

Key points about the model:

1. This model currently allows the attacker to gain ground even if the force ratio is unfavorable to the attacker; however, the more favorable the force ratio, the more ground the attacker gains.
2. The model is more accurate during the first 3-5 days of the battle. After 5 days, large losses ($\geq 30\%$), arrival of external reserves (20-30% of the original force), or a change in mission of the engaged force change the conditions. Then, a new run should be started incorporating the changes.
3. There is precedent, particularly in WWII Eastern Front battles of outnumbered German Forces making significant gains against vastly superior Soviet forces.
4. Low advance rates do not indicate the attack is defeated; rather they show there are several phases of an attack: breaking into the enemy position, breaking through it, breaking out and exploiting or pursuing a defeated enemy.
5. A low advance rate combined with a large combat power loss in the first one or two days can indicate an initial defeat as seen in scenario 1 (3 ABCTs).
6. Low advance rates with smaller losses indicate the attacker is breaking into and through the enemy position as can be seen in scenario 3 (2 RSGs).
7. The maximum depth of the battlefield is approximately 300km. This is sufficient for the defender to trade space for time to set up an offensive opportunity.

From 7 December 1944 to 31 January 1945, the 11th Panzer Division consisting on average of 9,000 German soldiers fought a series of mobile defensive battles against attacking Soviet Forces south and west of Stalingrad.

Soviet Losses

225 tanks
21 recon vehicles
35 guns (artillery)
347 anti-tank guns
30,700 dead
Wounded (Unknown)

German Losses

16 tanks
4 recon vehicles
0 guns
12 anti-tank guns
215 dead
1,019 wounded

“It was a difficult war. The Panzer divisions were covering 40-80 kilometer (24-50 mile) fronts and had to hold those lines against overwhelming enemy superiority. We managed because of our superior leadership and high mobility, but it took a toll on our equipment.”

General of Armored Troops Hermann Balck, March 1943

Hermann Balck, *Order in Chaos*, (Lexington, KY: The University Press of Kentucky, 2015), 283, 292.

SOURCES AND DATA (UNCLASSIFIED)

- All sources are unclassified and available on the Web
- The following sources were used in the preparation of this data product
 - MCOE Supplemental Material 3-90 Force Structure Reference Data Brigade Combat Teams January 2014
 - FKSM 71-8 Amor Cavalry Reference Data Modular Support Brigades, August 2008
 - FKSM 71-8 Armor Cavalry Reference Data Armored Cavalry Regiment, December 2008
 - World Wide Equipment Guide, US Army TRADOC G2 Volume 1 Ground Systems, December 2011
 - World Wide Equipment Guide, US Army TRADOC G2 Volume 2 Airspace and Air Defense Weapon Systems, December 2011
 - World Wide Equipment Guide, US Army TRADOC G2 Volume 3 Naval and Littoral Systems, December 2011

- FM 100-60 Armor and Mechanized Based Opposing Forces Organization Guide, July 1977
- CAC & FT LVN Pamphlet 350-2 Light OPFOR Organization Guide, September 1993
- Jane's World Armored Fighting Vehicles, St Martins Press, 1976
- Jane's Tank Recognition Guide, Collins, 2006
- Jane's Combat Aircraft, Collins, 1999
- Wikipedia
- Manufacturer Web Sites
- Service Web Sites
- Individual Country Web Sites

Determining Combat Power Values per Weapon System: Sample Factors

Weapon System	Firepower Factor (main weapon)	Speed Factor (base chassis)	Armor Factor (frontal)
M1A2 Tank	1	1	1
M2A2 IFV	0.65	0.91	0.4
Stryker	0.6	1.4	0.4
Puma AGS	1	3.12	0.8
Puma IFV	0.94	3.12	0.8
Puma AMOS	5.0	3.12	0.8
MLRS	16.04	0.95	0.2
TARES	125	3.12	0.5

These factors combined with other factors such as fuel capacity, secondary weapons, weight, type of armor, etc. to determine the combat power value per weapon system.

Simulation Model #1: 2 ABCTs, 1 FA BDE, 1 CAB (H), 1 SBCT vs Russian Independent Brigades

Burke-Macgregor Group LLC

DAY	% CBT PWR	FRIENDLY		ENEMY	% CBT PWR
1	100%	49171	CBT PWR	99982	100%
		0.49	CBT RATIO	2.03	
		0.15	LOSSES	0.07	
		Slow Go	TRAFFICABILITY	Slow Go	
		3.0	ADVANCE RATE (KM/DAY)	0.0	
2	88%	41703	CBT PWR	92896	94%
		0	ARRIVING UNIT	0	
		1494	RETURNS	1417	
		43197	TOT CBT PWR POTENTIAL	94313	
		0.46	CBT RATIO	2.18	
		0.15	LOSSES	0.07	
		3.0	ADVANCE RATE (KM/DAY)	0.0	
3	77%	36636	CBT PWR	87629	89%
		0	ARRIVING UNIT	0	
		1267	RETURNS	1317	
		37903	TOT CBT PWR POTENTIAL	88946	
		0.43	CBT RATIO	2.35	
		0.16	LOSSES	0.07	
		3.0	ADVANCE RATE (KM/DAY)	0.0	
4	67%	31933	CBT PWR	82642	84%
		0	ARRIVING UNIT	0	
		1194	RETURNS	1261	
		33127	TOT CBT PWR POTENTIAL	83902	
		0.39	CBT RATIO	2.53	
		0.16	LOSSES	0.07	
		3.0	ADVANCE RATE (KM/DAY)	0.0	
5	59%	27723	CBT PWR	78381	79%
		0	ARRIVING UNIT	0	
		1081	RETURNS	1104	
		28804	TOT CBT PWR POTENTIAL	79485	
		0.36	CBT RATIO	2.76	
		0.16	LOSSES	0.07	
		3.0	ADVANCE RATE (KM/DAY)	0.0	

Simulation Model #2: 3 ABCTs, 1 FA BDE, 1 CAB (H), 1 SBCT vs Russian Independent Brigades

Burke-Macgregor Group LLC

DAY	% CBT PWR	FRIENDLY		ENEMY	% CBT PWR			
1	100%	58811	CBT PWR	99982	100%			
		0.59	CBT RATIO	1.70				
		0.14	LOSSES	0.08				
		Slow Go	TRAFFICABILITY	Slow Go				
		3.0	ADVANCE RATE (KM/DAY)	0.0				
2	89%	50541	CBT PWR	91884	94%			
		0	ARRIVING UNIT	0				
		1654	RETURNS	1620				
		52195	TOT CBT PWR POTENTIAL	93503				
		0.56	CBT RATIO	1.79				
2	89%	0.14	LOSSES	0.08	94%			
		3.0	ADVANCE RATE (KM/DAY)	0.0				
		3	79%	44855		CBT PWR	86403	88%
				0		ARRIVING UNIT	0	
				1421		RETURNS	1395	
46276	TOT CBT PWR POTENTIAL			87799				
0.53	CBT RATIO			1.90				
3	79%	0.15	LOSSES	0.08	88%			
		3.0	ADVANCE RATE (KM/DAY)	0.0				
		4	69%	39508		CBT PWR	81131	82%
				0		ARRIVING UNIT	0	
				1354		RETURNS	1333	
40862	TOT CBT PWR POTENTIAL			82465				
0.50	CBT RATIO			2.02				
4	69%	0.15	LOSSES	0.07	82%			
		3.0	ADVANCE RATE (KM/DAY)	0.0				
		5	61%	34656		CBT PWR	76620	78%
				0		ARRIVING UNIT	0	
				1241		RETURNS	1169	
35897	TOT CBT PWR POTENTIAL			77789				
0.46	CBT RATIO			2.17				
5	61%	0.15	LOSSES	0.07	78%			
		3.0	ADVANCE RATE (KM/DAY)	0.0				

Simulation Model #3: 2 RSGs vs Russian Independent Brigades

Burke-Macgregor Group LLC

DAY	% CBT PWR	FRIENDLY		ENEMY	% CBT PWR
1	100%	271188	CBT PWR	99982	100%
		2.71	CBT RATIO	0.37	
		0.07	LOSSES	0.15	
		Slow Go	TRAFFICABILTY	Slow Go	
		5.6	ADVANCE RATE (KM/DAY)	0.0	
2	94%	251357	CBT PWR	85304	88%
		0	ARRIVING UNIT	0	
		3966	RETURNS	2936	
		255323	TOT CBT PWR POTENTIAL	88239	
		2.89	CBT RATIO	0.35	
		0.07	LOSSES	0.15	
		5.6	ADVANCE RATE (KM/DAY)	0.0	
3	89%	236653	CBT PWR	74838	77%
		0	ARRIVING UNIT	0	
		3676	RETURNS	2591	
		240329	TOT CBT PWR POTENTIAL	77429	
		3.10	CBT RATIO	0.32	
		0.07	LOSSES	0.15	
		5.6	ADVANCE RATE (KM/DAY)	0.0	
4	84%	224107	CBT PWR	65670	68%
		0	ARRIVING UNIT	0	
		3244	RETURNS	2352	
		227351	TOT CBT PWR POTENTIAL	68021	
		3.34	CBT RATIO	0.30	
		0.07	LOSSES	0.16	
		7.5	ADVANCE RATE (KM/DAY)	0.0	
5	79%	212005	CBT PWR	57002	59%
		0	ARRIVING UNIT	0	
		3069	RETURNS	2204	
		215074	TOT CBT PWR POTENTIAL	59206	
		3.63	CBT RATIO	0.28	
		0.07	LOSSES	0.16	
		7.5	ADVANCE RATE (KM/DAY)	0.0	

Simulation Model #4: 1 RSG vs Russian Independent Brigades

Burke-Macgregor Group LLC

DAY	% CBT PWR	FRIENDLY		ENEMY	% CBT PWR
1	100%	135594	CBT PWR	99982	100%
		1.36	CBT RATIO	0.74	
		0.10	LOSSES	0.11	
		Slow Go	TRAFFICABILITY	Slow Go	
		3.4	ADVANCE RATE (KM/DAY)	0.0	
2	92%	122628	CBT PWR	88847	91%
		0	ARRIVING UNIT	0	
		2593	RETURNS	2227	
		125221	TOT CBT PWR POTENTIAL	91074	
		1.37	CBT RATIO	0.73	
		0.10	LOSSES	0.11	
		3.4	ADVANCE RATE (KM/DAY)	0.0	
3	85%	113247	CBT PWR	80931	83%
		0	ARRIVING UNIT	0	
		2345	RETURNS	1979	
		115592	TOT CBT PWR POTENTIAL	82910	
		1.39	CBT RATIO	0.72	
		0.10	LOSSES	0.11	
3.4	ADVANCE RATE (KM/DAY)	0.0			
4	79%	104539	CBT PWR	73676	76%
		0	ARRIVING UNIT	0	
		2211	RETURNS	1847	
		106749	TOT CBT PWR POTENTIAL	75522	
		1.41	CBT RATIO	0.71	
		0.10	LOSSES	0.11	
3.4	ADVANCE RATE (KM/DAY)	0.0			
5	73%	96541	CBT PWR	67111	69%
		0	ARRIVING UNIT	0	
		2042	RETURNS	1682	
		98583	TOT CBT PWR POTENTIAL	68793	
		1.43	CBT RATIO	0.70	
		0.10	LOSSES	0.12	
3.4	ADVANCE RATE (KM/DAY)	0.0			

Russian Army Modernization is Racing Ahead:



The U.S. Army spent more than \$20 billion on FCS and additional funds on GCV over nearly a decade and produced nothing. Now, Russia is fielding a new family of armored fighting systems.

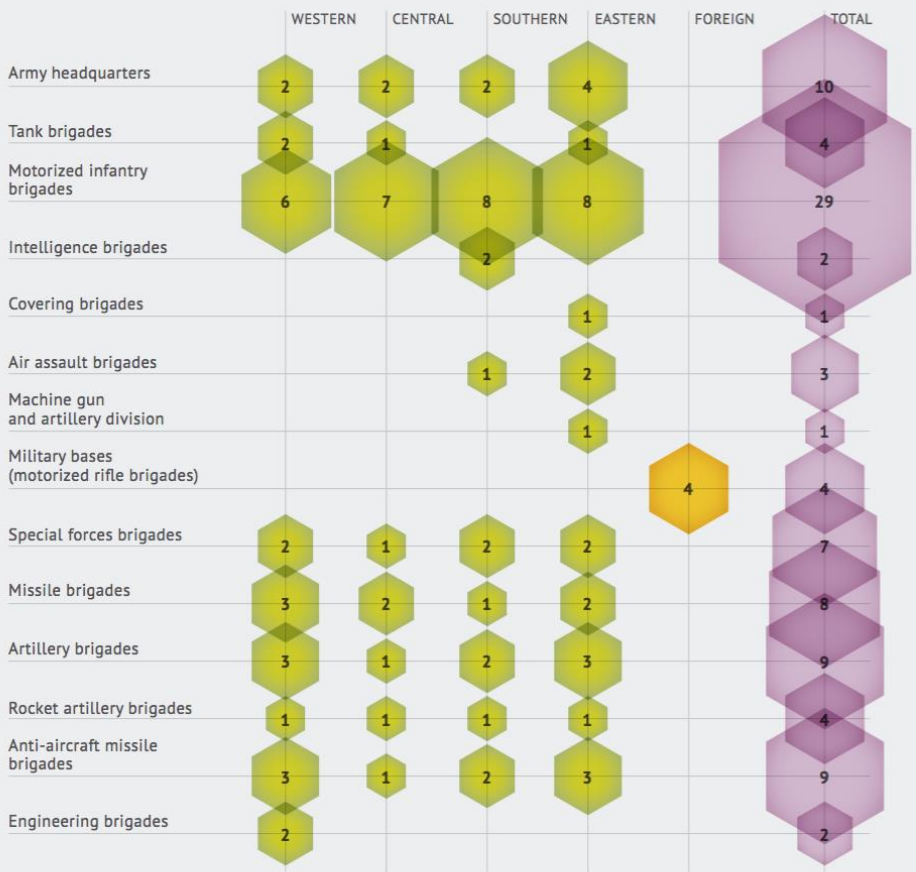
"It is undoubtedly the case that post-[military] transformation Russia will have a very different force available from the one that went into action in Georgia in 2008, and one that is more effective, flexible, adaptable, and scalable for achieving Russia's foreign policy aims..."

Keir Giles, Dr. Andrew Monaghan, "Russian Military Transformation - Goal In Sight?" Published by the *Strategic Studies Institute*, U.S. Army War College, May 2014 (updated 2015)

Various components are interchangeable between tanks and IFVs along with other chassis.

Russian Army Force Structure:

The approximate composition of the Army's units of permanent combat readiness in new Russian military districts as of the beginning of 2011 (excluding training and reserve units)



Source: Center for Analysis of Strategies and Technologies

Source:

“Military Reform: Towards the New Look of the Russian Army”

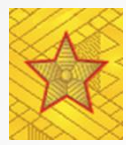
Published by Valdai Discussion Club, Moscow
July 2012

Mikhail Barabanov, Editor-in-Chief of Moscow Defense Brief

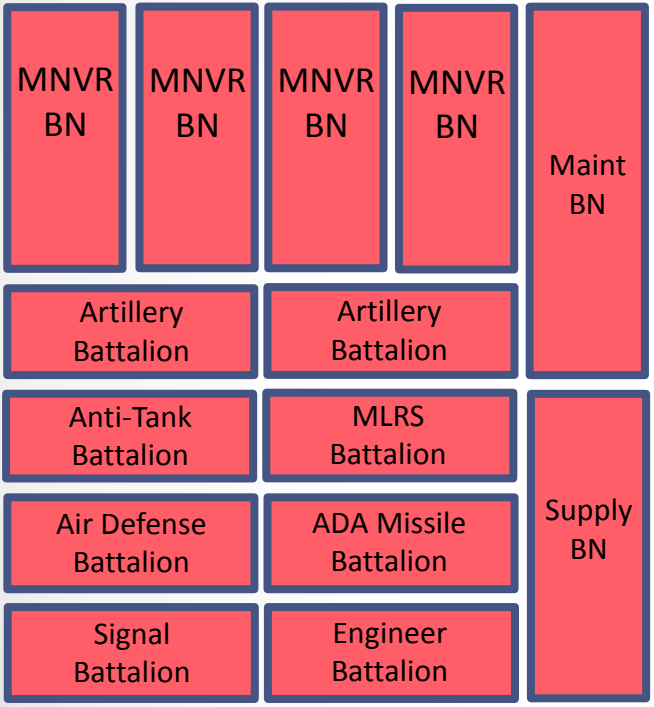
Konstantin Makienko, Deputy Director of the Center for Analysis of Strategies and Technologies; member of the Expert Council under the Russian State Duma Defense Committee

Ruslan Pukhov, Director of the Center for Analysis of Strategies and Technologies; member of the Public Council under the Russian Defense Ministry

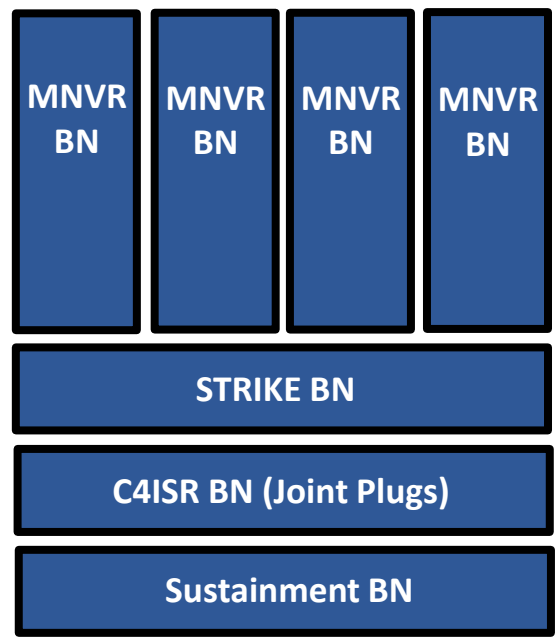
What's the difference between a Russian Independent Brigade Formation and the RSG?



General Major (one star general)
Commands 6,000 troops



BG Commands 5,500 troops



- ✓ RSG has larger Maneuver BNs.
- ✓ RSG span of control is smaller.
- ✓ Advanced weapons mounted on the PUMA common platform generate more combat power.

Western Military District HQ (St Petersburg)



Sixth Army (Agalatovo)

25th Motorized BDE
138th Motorized BDE
26th Missile BDE
9th Artillery BDE

Central Command (Moscow)

27 Motorized BDE
79th Rocket BDE
7th Engineer Regiment

Twentieth Army (Mulino)

4th Guards Tank BDE
5th Guards Motorized Rifle BDE
6th Tank BDE
9th Motorized Rifle BDE
288th Artillery BDE

1st Guards Tank Army and
20th Guards Combined Army
are to be formed within the
Western Military District by
December 1, 2015

SECTION 3: RSG IMPLICATIONS FOR A REORGANIZED GROUND FORCE

The Reorganized Army Fighting Force (MTM)

Burke-Macgregor Group LLC

Maneuver Echelon:

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

Manpower Total
140,000

Strike Echelon: (Aviation/UCAV/MLRS), TMD

- (4) ACG: Aviation Combat Groups – 3500
- (2) STG: Strike Groups (UCAV/MLRS) – 3,000
- (4) TMD: Theater Missile Defense Groups – 4,000

Manpower Total
36,000

ISR Echelon: (C4I plus SR/manned/unmanned)

- (4) C4I Groups – 5,000

Manpower Total
20,000

Sustainment Echelon:

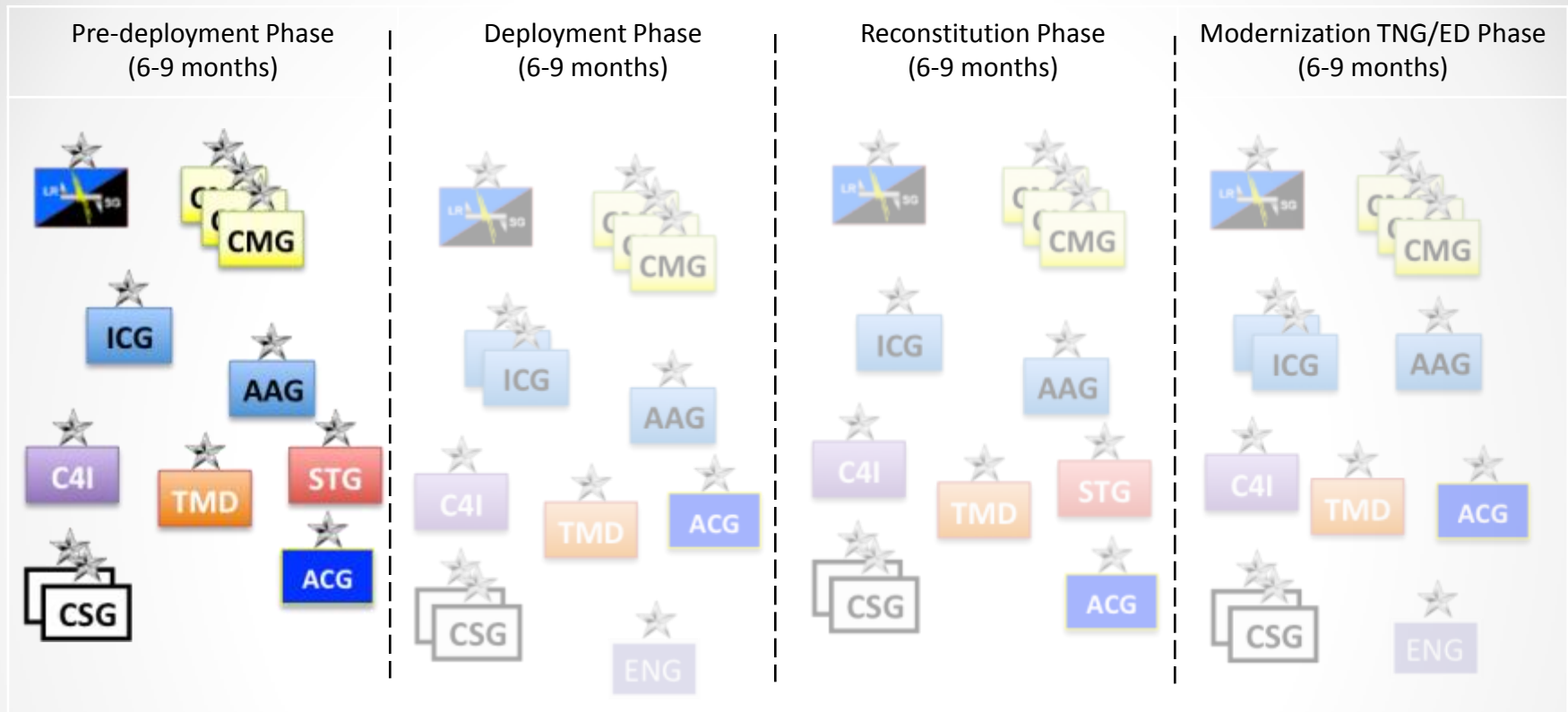
- (8) CSG: Combat Support Groups – 6,000
- (2) ENG: Engineer Groups* (construction) – 4,000
- (1) CBG: Chem-Bio Warfare Group – 3,000

Manpower Total
57,500

*Note: During the Korean War U.S. Army maintained a 200,000 man Army on the Peninsula. This force provides a fighting force of 250,000 AC troops.

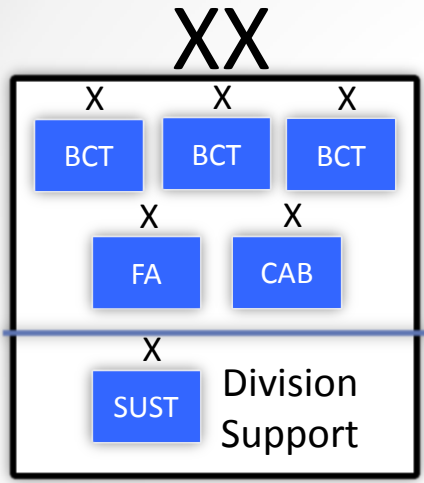
What is Joint Rotational Readiness?

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1. Army can provide 40,000 to 50,000 ready, deployable troops at all times; the National Command Authorities (NCA) always know what forces/capabilities can deploy;
2. Funding for O&M is managed efficiently;
3. Army Force Packages are aligned with strategic air and sea lift;
4. No more last minute, hasty assembly of units and equipment for crisis or conflict;
5. Deployments become predictable improving quality of life for soldiers and families;

Active Duty External Logistics Comparisons



~30% of BCT or BDE are support troops

~55% of division consists of support troops (Sustainment BDE + BSBs)

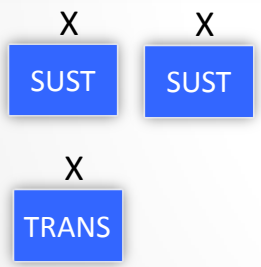


RSG and all individual combat groups each have organic ~45% support

Total: 10 Divisions* and 13+ Separate Brigades

Total: 43 Combat Groups

*50 Brigades and BCTs organized into Divisions.



Only 2 active duty Sustainment Brigades and 1 Transportation Brigade available for external support.



8 External support Combat Support Groups (6000 troops each)

1 AC Combat Support Group for every 5 AC Combat Groups



Must draw from USAR and ARNG

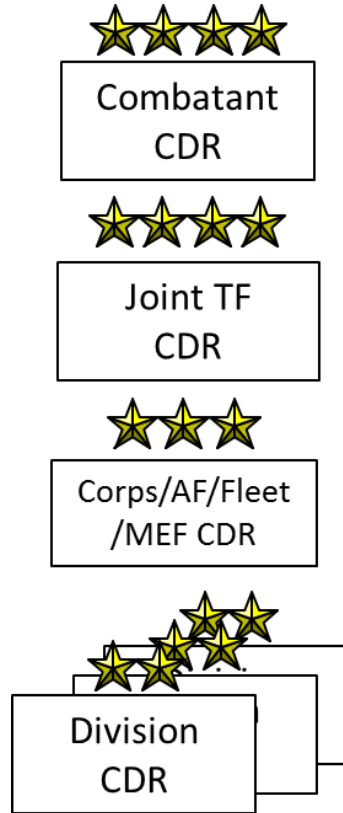
Theater Support Depends on US Army Reserve/Army National Guard Support Units

RSG is the path to flatter, faster, Joint, integrated C2:

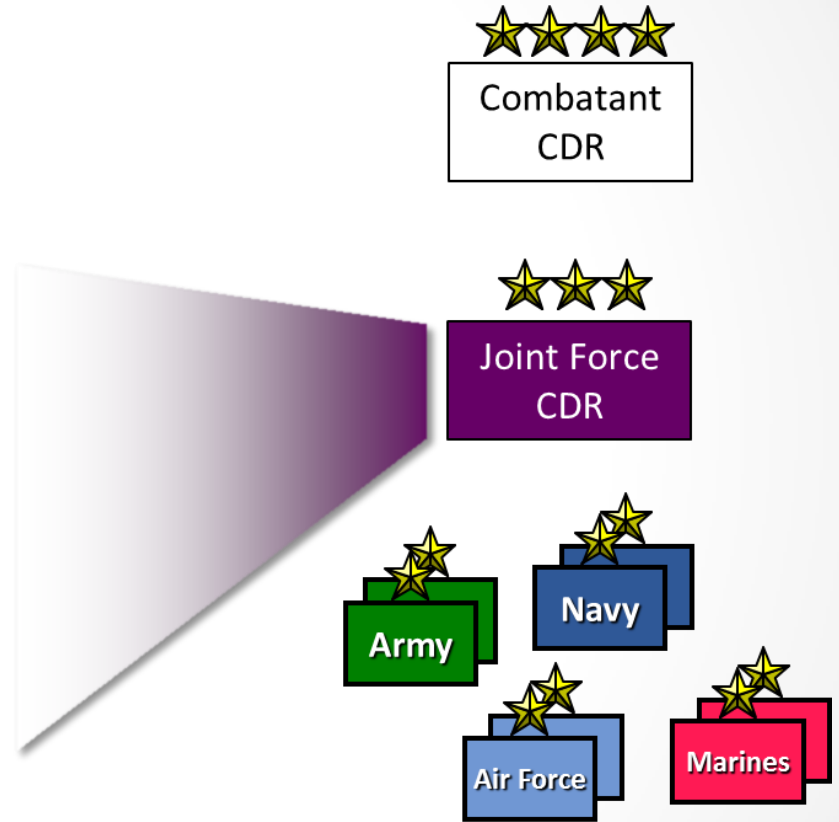
One Star Force Packages Exist Now!



Industrial Age

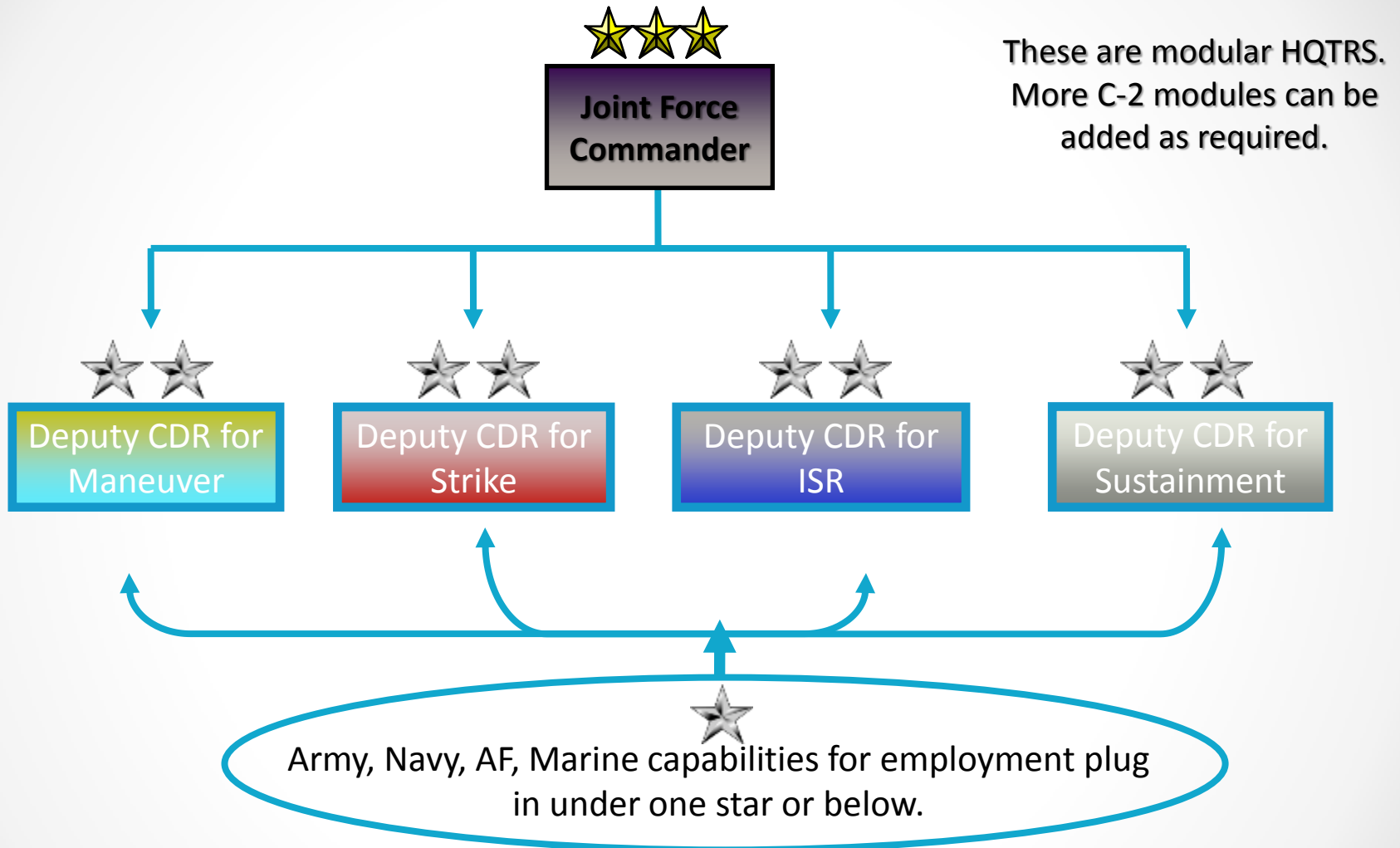


Information Age



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.

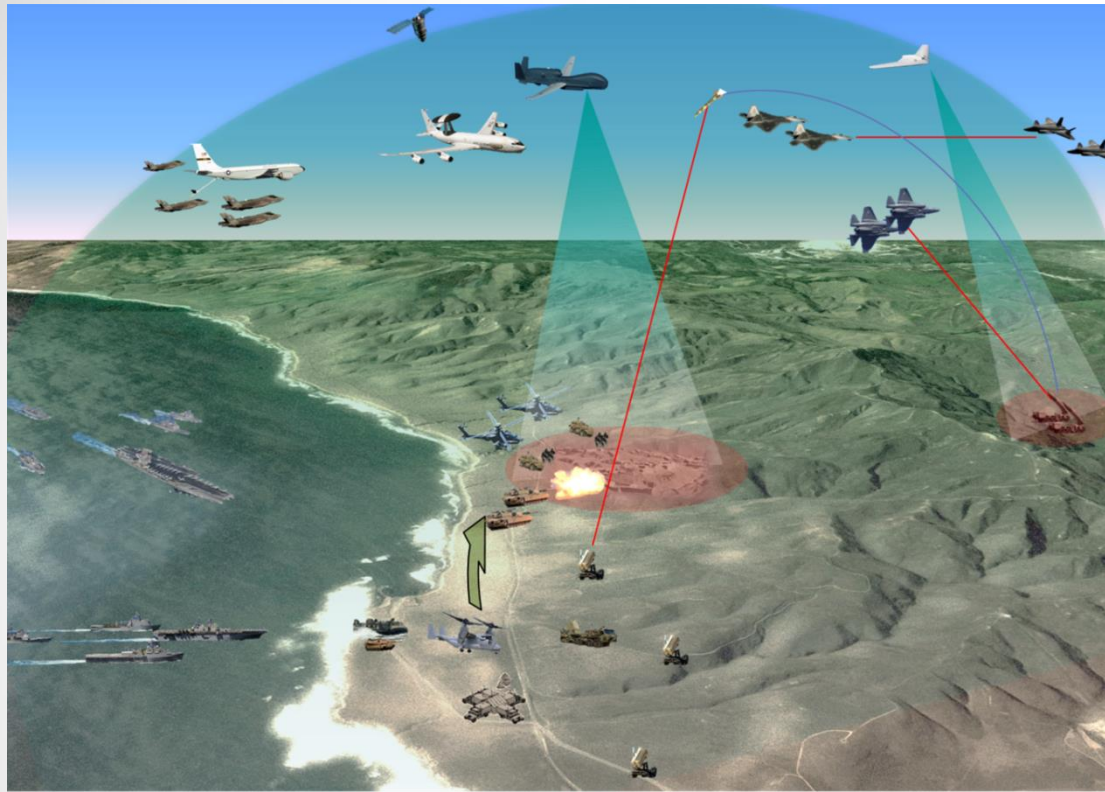
A Regionally Focused Joint Force Command Structure



US Army can establish two JFCs for employment in the West (PACOM) or the East (EUCOM, CENTCOM, AFRICOM). More can be established as needed.

The ISR-Strike-Maneuver-Sustainment Framework:

Burke-Macgregor Group LLC



- ✓ **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.

Who authored the Briefing and Paper?

Burke-Macgregor Group LLC



- Colonel (ret) Douglas Macgregor is a decorated combat veteran, the author of five books, a PhD and the executive VP of Burke-Macgregor Group LLC, a defense and foreign policy consulting firm in Reston, VA. He was commissioned in the US. Army in 1976 after 1 year at VMI and 4 years at West Point.
- 1991, Macgregor was awarded the bronze star with “V” device for valor for his personal leadership of the cavalry troops from the Second Armored Cavalry Regiment that destroyed a full-strength Republican Guard Brigade in the action known as the Battle of the 73 Easting, the U.S. Army’s largest tank battle since World War II. His book, *Warrior’s Rage. The Great Tank Battle of 73 Easting* (Naval Institute Press, 2009) describes the action.
- As the Director of the Joint Operations Center at SHAPE in 1999, Macgregor supervised the conduct and planning of operations during the Kosovo Air Campaign.
- Macgregor’s concepts from his groundbreaking books on military transformation, *Breaking the Phalanx* (1997) and *Transformation under Fire* (2003) have profoundly influenced thinking about change inside America’s ground forces. His newest book, *Margin of Victory*, will be published in the Spring of 2016.
- Young J. Kim is a former ordnance branch captain in the US Army with deployments and stations in Iraq (2003, 2009) and Korea (2005). Kim served as Supply & Transportation Platoon Leader, Maintenance Platoon Leader, Armor Battalion Maintenance Control Officer, and Area Support Group Maintenance Officer-Support Operations. Kim is now the senior analyst with BMG, LLC.
- Kim is an Army ROTC graduate of the University of Southern California with a BS in electrical engineering and a Master’s Degree in Defense and Strategic studies.