The Light Reconnaissance Strike Group (LSRSG):

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

1. What you should take away from this presentation;
2. The LSRG is not business as usual in defense acquisition or transformation;
3. The LSRG is organized and equipped for 360 degree warfare;
4. Rapid Prototyping the LSRG;
5. Why Building Puma in the USA makes sense;
6. Russian Army Modernization Races Ahead!
7. Recommended Actions
What you should take away from this presentation!

1. "Underpinning all of these matters is the larger issue of why the culture of how the Department of Defense ‘does business’ must change…”

2. "...the Department owes to the taxpayer a stewardship obligation to extract maximum value for every defense dollar spent and a moral responsibility to the war-fighter that these dollars are being spent wisely to effectively procure desired combat capability... In other words, cultural change needs leadership that not only rejects ‘business-as-usual’ but also challenges it."

NOTE: Excerpt from Senator John McCain’s Floor Speech 4 February 2013.
The Light Reconnaissance Strike Group (LRSG) is not business as usual:

- LRSG is “not business as usual.” It’s the leading edge of change in Army force design that’s at least 20 years overdue. (Failed Army recapitalization efforts FCS, GCV, Force XXI, Army after Next…);

- LRSG is the cost-effective combination of existing technologies with an innovative force design (lower procurement and maintenance costs);

- LRSG is the model for future Army contributions to Joint Warfighting Operations, structured for flexible mission sets and seamless integration with aerospace and maritime power (ISR, Strike, Maneuver, Sustainment).
What’s the difference between a BCT and the LRSG?

<table>
<thead>
<tr>
<th>Colonel Commands</th>
<th>BG Commands</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-4,500 troops</td>
<td>5,500 troops</td>
</tr>
</tbody>
</table>

- MNVR BN
- MNVR BN
- MNVR BN

- MNVR SQDN
- MNVR SQDN
- MNVR SQDN
- MNVR SQDN

- Fires Battalion
- Support Battalion
- STRIKE Squadron
- C4ISR Squadron (Joint Plugs)
- Sustainment Squadron

- **Consolidates more combat power under fewer headquarters;**
- **Flattens C2, Plugs into Joint Command without intervening Division HQ;**
- **Scraps colonel level of command.**
- **Rewards Performance, not longevity.**
BCT C2 versus
LRSG C2

LRSG C2 can plan and execute complex operations inside a JTF.
The LRSG: A Break from the Past and a Bridge to the Future:

- LRSG provides an Army Maneuver Force with the mobility, firepower, protection and organic sustainment to operate autonomously under Joint C2; integrates all arms/all effects;
- The LRSG Punches above its weight, mobilizing fighting power disproportionate to its size;
- The LRSG is designed with a Joint purpose for a 21st Century Warfighting environment that rewards high lethality, low density fighting formations.
- The LRSG Organizes around Maneuver (ground), Strike, ISR (intelligence, surveillance, reconnaissance) and Sustainment;
- The LRSG Magnifies the Striking Power of America’s Aerospace and Maritime Forces;
- The LRSG Bypasses or punches through enemy resistance to encircle and destroy sub-national groups or nation-state forces;
- The LRSG can take hits, keep fighting and counterattack decisively.
LRSG Organizes for 360 Degree Warfare

Circles Depict Squadron Kill Zones

The 360 degrees of combat facilitates rapid change in direction of attack momentum.

National Advanced Surface-to-Air Missile System (NASAMS) with Sentinel Radar defends LRSG out to 50 km from enemy aircraft, UCAVs, and cruise missiles.

NOTE: C4ISR, STRIKE, SUST Squadrons integrated within formation.
ABCT: Weapon versus LRSG

<table>
<thead>
<tr>
<th>QTY</th>
<th>Major Weapon Systems</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>87</td>
<td>M1 tank (120 mm gun)</td>
<td>139</td>
</tr>
<tr>
<td>160</td>
<td>M2 Bradley IFV (25 mm auto-cannon)</td>
<td>216</td>
</tr>
<tr>
<td>0</td>
<td>MLRS (Multiple Launch Rocket Launcher)</td>
<td>12</td>
</tr>
<tr>
<td>0</td>
<td>AH-64E Apache (Attack Helicopter)</td>
<td>12</td>
</tr>
<tr>
<td>14</td>
<td>Mortar Carrier (manual fire)</td>
<td>52</td>
</tr>
<tr>
<td>24</td>
<td>155mm Artillery (manual fires)</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>No equivalent capability</td>
<td></td>
</tr>
</tbody>
</table>

LRSG has significantly more firepower, mobility and protection than the Armor Brigade Combat Team.
LRSG Operating Range: 1800 km or 10 days of combat without replenishment.

Total Group Fuel Capacity: 762,000 gallons.

Total Brigade Fuel Capacity: 500,000 gallons.

NOTE: M1A1/2 tank with turbine engine has 500 gallon 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.

LRSG is capable of independent operational maneuver within a Joint Task Force. The BCT is not capable of independent maneuver.
Why the German PUMA makes sense:

- “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.”

Rapid Prototyping the LRSG

“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

Rapid prototyping:
- is about innovation, not invention.
- Mitigates risk, saves money and speeds up delivery when prototyping leverages a mature, existing platform;
- Explores and develops new capabilities inside a new organization with smaller inventories of new equipment before larger investments are made;
- Allows soldiers to modify systems and organizations while tracking the modifications;
- Supports new organizational designs that emphasize self-containment and operational independence.

What works now should triumph over “unobtainium.”
# M2 vs Kurganets-25 vs T-15 vs PUMA

## Chassis Performance

<table>
<thead>
<tr>
<th>Performance Capabilities</th>
<th>M2</th>
<th>Kurganets-25</th>
<th>T-15</th>
<th>Puma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Power</td>
<td>600 hp (450 kW)</td>
<td>800 hp (600 kW)</td>
<td>1200 hp (900 kW)</td>
<td>1100 hp (800 kW)</td>
</tr>
<tr>
<td>Power to Weight Ratio</td>
<td>19.7 hp/ton</td>
<td>32 hp / ton</td>
<td>30 hp/ton</td>
<td>34 hp/ton</td>
</tr>
<tr>
<td>Operational Range</td>
<td>250 miles (400 km)</td>
<td>310 miles (500 km)</td>
<td>340 miles (550 km)</td>
<td>373 miles (600 km)</td>
</tr>
<tr>
<td>Speed</td>
<td>35 mph (56 kph)</td>
<td>50 mph (80 kph)</td>
<td>43 mph (70 kph)</td>
<td>44 mph (70 kph)</td>
</tr>
<tr>
<td>Length</td>
<td>6.55 meters</td>
<td>7.2 meters</td>
<td>Unknown</td>
<td>7.4 meters</td>
</tr>
<tr>
<td>Width</td>
<td>3.6 meters</td>
<td>3.2 meters</td>
<td>Unknown</td>
<td>3.7 meters</td>
</tr>
<tr>
<td>Weight</td>
<td>27.6 tons</td>
<td>25 tons</td>
<td>~40 tons</td>
<td>32-40 tons</td>
</tr>
</tbody>
</table>

**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 comparable to tanks. Mounts unmanned turret with 30mm. Could mount 120mm Cannon.
What $20 billion buys...

**FCS and GCV**

11 years and 20+ Billion Dollars, produced nothing of enduring strategic value for the Nation, the Joint Force or the U.S. Army.

- **2003-2009**: Delays and cost overruns. One partially working prototype self-propelled cannon.
- **2009-2014**: More delays and cost overruns. Design would be heavier than an M1 tank!

**4 X LRSG**

- *Actual operational production models*
- Four fully functioning and fielded Puma or “Puma Equivalent” equipped Light Recon Strike Groups
Russian Army Modernization is Racing Ahead:

- Unmanned turret with 125mm Gun
- Engine forward
- Dismounts or relief crew
- Reportedly 55 tons

The U.S. Army spent more than $20 billion over nearly a decade and produced nothing. Now, Russia is preparing to field 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)
Three months after NATO agreed to set up a rapid-reaction force to ease its Eastern allies' fears about Russia, the task is providing an object lesson in the limitations of Europe's military capabilities.

The plan is to create by 2016 a *brigade-size force of up to 5,000 ground troops*;

In operations in the Balkans and in Afghanistan, NATO allies had months to prepare for deployments, he said. Now *"we need something that's at the ready;"*

"We have found that standing up that capability has more difficulty involved than perhaps the alliance expected;“

Recommendations:

“I don't think the troops can wait 10 or 15 years for a new armored vehicle to be developed.”


**First,** Examine the LRSG outlined in this presentation as an alternative Army force design in the context of potential $ savings.

**Second,** Model the LRSG in simulation using a current warfighting scenario. Direct the VCJCS to report his findings on the LRSG to Congress within 90 days.

**Third,** Evaluate the potential for U.S.-German military-industrial cooperation to **stand up a Puma-equipped LRSG inside the German Army and other NATO States as part of the NATO Rapid Response Force initiative.**
Backup Slides
Weapons for direct fire combat, ISR, and STRIKE include working prototypes. Transition to production can be rapid.

Examples of Systems mounted on PUMA:
- **TARES** – 200 km range UAV/missile capable of destroying enemy Air Defenses and Artillery at long ranges;
- **NASAMS 2** – ADA and cruise missile defense based on AMRAAM capable of tracking 54 targets simultaneously;
- **Sky Ranger** – Short range air defense gun also capable of shooting incoming artillery and mortars;
- **AMOS** – auto-loading 120mm mortar system with fire effects equal to howitzers;
- **Thermobaric rockets** – wide area destruction of the enemy.

Without TARES in the LRSG ATACMS is the Army’s only tactical long-range precision strike surface-to-surface weapon.
Maneuver Squadron (Example):

452 PUMAs (in 4 SQDNs)
- Command, Control, and Communications (68)
- Armored Gun System (132)
- Infantry Fighting Vehicle (200)
- AMOS Mortar (52)

236 Utility Vehicles (in 4 SQDNs)
(Legacy Equipment or PUMA Chassis)
- 32 Medical Evacuation and Treatment Vehicles
- 16 Forward Repair Shops
- 48 Recover & Repair Maintenance Vehicles
- 76 Palletized Loading Systems (PLS)
- 64 Large Capacity Fuel Carriers including self contained water purification system
<table>
<thead>
<tr>
<th>BG commands 5,500 Troops with staff of Lieutenant Colonels</th>
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<tbody>
<tr>
<td><strong>ARMED RECON</strong></td>
</tr>
<tr>
<td>(760 Troops per Armed Recon Squadron)</td>
</tr>
<tr>
<td>139 Puma or equivalent Armored Gun System (AGS)</td>
</tr>
<tr>
<td>216 Puma or equivalent Infantry Fighting Vehicle (IFV)</td>
</tr>
<tr>
<td>52 Puma or equivalent Auto-loading 120mm Mortar</td>
</tr>
<tr>
<td>91 Puma or equivalent Command, Control, and Communications</td>
</tr>
<tr>
<td>23 Short Range Air Defense 30mm + (SHORAD)</td>
</tr>
</tbody>
</table>

| **STRIKE** |
| (770 Troops) |
| 9 Multiple Launch Rocket System (MLRS) |
| 16 Tactical Advanced RECCE Strike (TARES) |
| 18 ADA launchers (NASAMS 2) |
| 12 AH-64E Apache Helicopters (*Place Holder until UCAV exists*) |
| 24 Strike Coordination (Fire Direction) Vehicles and Mobile ADA Targeting |

| **CMD (C4ISR) & CONTROL** |
| (870 Troops) |
| 18 UH-60 Blackhawk Helicopters |
| 8 Armored Vehicle Launch Bridge (AVLB) |
| 12 Engineer Assault Vehicles (mine clearing) |

| **SUSTAINMENT** |
| (800 Troops) |
| 66 Medical Evacuation and Treatment Vehicles |
| 42 Forward Repair Shops |
| 235 Palletized Loading Systems (PLS) |
| 177 Large Capacity Fuel Carriers including self contained water purification system. |