



# CALL TO DUTY

## BOOTS ON THE GROUND

Unclassified



UNITED STATES ARMY



**Future Combat  
Systems (FCS)  
Enabling Precision**

Unclassified



# Critical Needs of the Army

## A Modernization Strategy That Provides:

**Network**

**Precision Effects**

**Modern Platform**

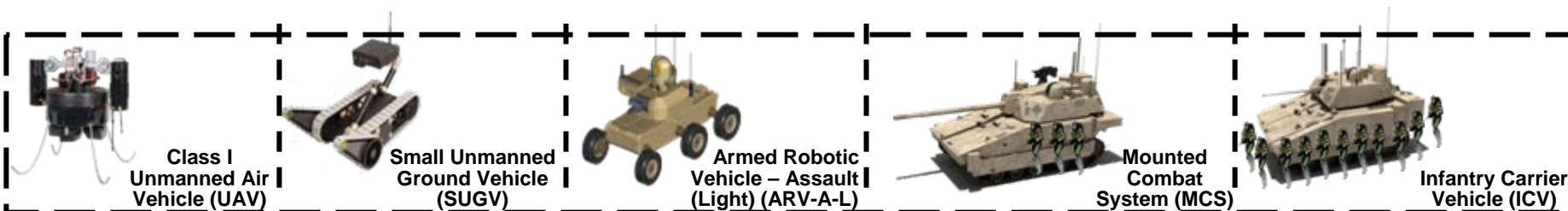
**Greatly Enhanced  
Capability in  
Precision Operations**

**Sustained and Dominant  
Full Spectrum Landpower**

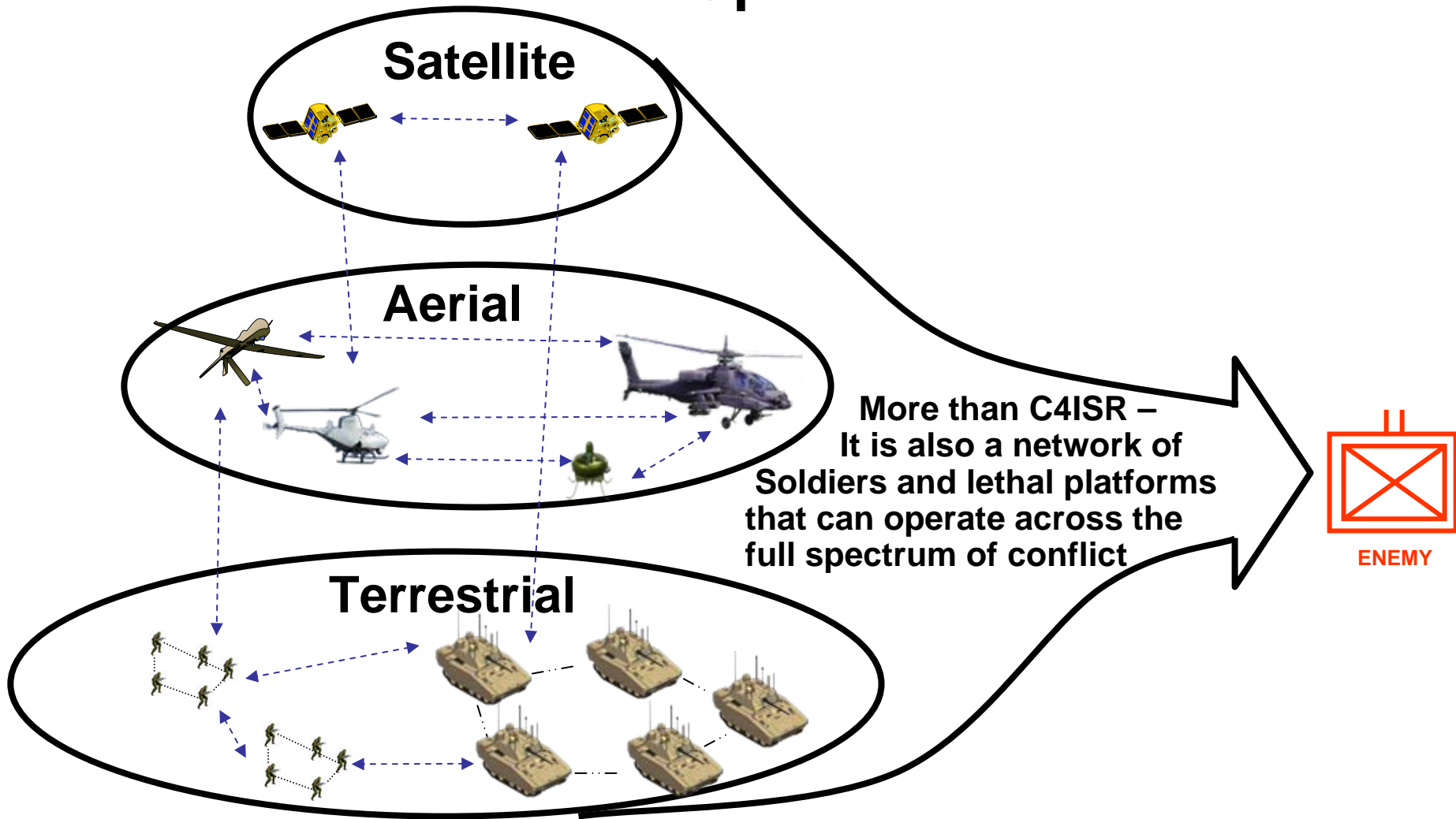


# The Four Elements of the Army Modernization Strategy

- Rapidly field the best new equipment to the current force.
- Upgrade and modernize existing systems to ensure all Soldiers have the equipment they need, including:
  - Soldiers as a System
  - Armored Systems
  - Tactical Wheeled Vehicles
  - Aviation
  - Patriot
  - The Network
- Incorporate new technologies derived from Combat Systems research and development
- Field the Future Combat Systems (FCS) Brigade Combat Teams.



# Vision for Future Networked Land Forces in Joint Operations



***Redundant, Scalable, and Tailorable On-the-Move Networks enable  
Situational Understanding to Focus Effects with Precision***

# Capabilities in Action --- Future Common Operation Picture

**Evolutionary**

**Revolutionary**

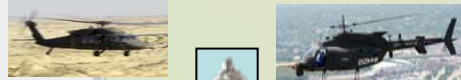
**Tomorrow**  
**FCS**

**Today**  
**2007 - Iraq**

**Yesterday**

**1993 - Somalia**

**Aviation**    **Surveillance**



**Line of Sight**



**Ground**

**TOC**

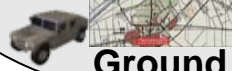
**Line of Sight**



**Aviation**



**Ground**



**UAV**



**3 Views of the  
Battlefield**

**Aviation**



**UAV**



**Ground**



**Common View  
At  
Decisive Point**

**Precision Operations**

# A Revolutionary Concept to Achieve Precision Effects

*Detect – Shape – See!*



Brigade/Battalion Controlled  
Unmanned Air Vehicle

*Understand – Destroy – Disrupt!*



Soldier Controlled  
Unmanned Air Vehicle

Soldier  
Employed  
Unattended  
Sensors to extend  
Awareness in the  
Open and Inside  
Buildings

Real Time  
Situational  
Awareness



*Acquire – Destroy - Suppress!*



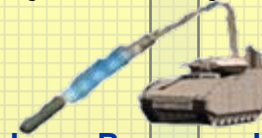
Shared Picture  
Between Platforms

Unmanned  
Ground Vehicles  
First in the Door  
or Down the Road

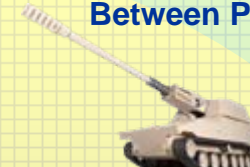


Missiles in a Box

*Deny – Destroy - Dominate!*



Long Range and Close-in  
Active Protection



Non-Line of  
Sight –  
Cannon



Joint Integrated  
Multinational  
Network

*Avoid Penetration!*



Installable  
Anti-Mine Kit



Upgradeable Armor

*Avoid Kill – Protect!*

Mounted  
Combat  
System  
(MCS)



Crew Protection



SEE FIRST  
ACT FIRST

**Networked Soldiers Engage the Enemy at a Distance  
And Close with the Enemy under Armor Protection Layer**

# FCS Brigade Combat Team Platforms

## Communicate / See / Understand / Act

Command and Control Vehicle (C2V)



Reconnaissance And Surveillance Vehicle (RSV)



Network



Class IV UAV



T-UGS



U-UGS



Tactical and Urban Unattended Ground Sensors

Class I UAV



## Move

## Spin-Outs

Medical Vehicle Treatment (MV-T)



FCS Recovery and Maintenance Vehicle (FRMV)



Medical Vehicle Evacuation (MV-E)



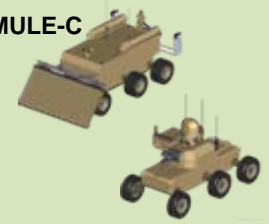
Common Chassis

MULE-T



Multifunction Utility/Logistics and Equipment Countermine and Transport

MULE-C



Armed Robotic Vehicle – Assault (Light) (ARV-A-L)

Small UGV (SUGV)



## Shoot

Non-Line of Sight Cannon (NLOS-C)



Mounted Combat System (MCS)



Infantry Carrier Vehicle (ICV)



Non-Line of Sight Mortar (NLOS-M)



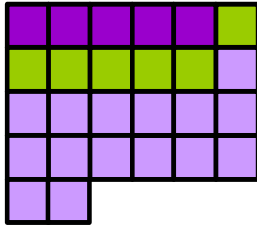
Non-Line of Sight Launch System (NLOS-LS)

**Greatly Enables and Protects the Soldier**

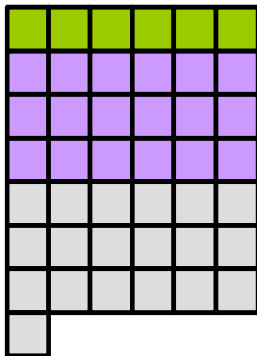
# Army Force Generation With FCS Spin-out Capabilities in 2020

**FY2020**

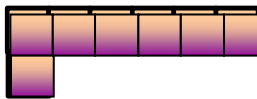
**FBCT /  
HBCT**



**IBCT**



**SBCT**



		RESET / TRAIN (recovery, reset, new equipment)	READY AVAILABLE (mission training, increased capability)	(Deployed or ready for immediate deployments)	Increased Capability
<b>FBCT</b>		<b>2</b>	<b>2</b>	<b>1</b>	Exponential increase in situational awareness, lethality, survivability, supportability
<b>HBCT</b>	SO1	<b>1</b>	<b>3</b>	<b>2</b>	Significant increase in Situational Awareness, Battle Command on the move, persistent surveillance
	SO3	<b>4</b>	<b>6</b>	<b>5</b>	
<b>IBCT</b>	SO1	<b>3</b>	<b>3</b>	<b>3</b>	Significant increase in Situational Awareness, Battle Command on the move, persistent surveillance, forced entry precision fires
	SO3	<b>9</b>	<b>3</b>	<b>3</b>	
<b>SBCT</b>	SO2	<b>2</b>	<b>3</b>	<b>2</b>	Significant increase in Situational Awareness, survivability, Battle Command on the move, persistent surveillance
<b>Total</b>		<b>21</b>	<b>20</b>	<b>16</b>	

**57 of 76 BCTs with FCS spin-outs / FBCT**

- 5 FBCTs (five HBCTs converted to FBCTs)
- 21 of 21 HBCTs with FCS spin-outs
- 24 of 43 IBCTs with FCS spin-outs
- 7 of 7 SBCTs with FCS spin-outs

**9 of 16 Available BCTs have FCS Network Capability**



**BACK UP**

# Army Direct Fire Capability Comparison



Abrams Tank

Transportability and Weight	Lethality (Kill Capability)	Survivability
<p><b>Aircraft</b></p> <ul style="list-style-type: none"> <li>1 per C-5</li> <li>1 per C-17</li> </ul> <p><b>Weight</b></p> <p>70 Ton</p>	<ul style="list-style-type: none"> <li>Dismounted Enemy / Bunkers</li> <li>Defeats heavy armor with no autoloader</li> <li>Only provides Line of Sight engagements</li> </ul>	<p><b>Protection</b></p> <ul style="list-style-type: none"> <li>Passive Protection</li> </ul> <p><b>Threat</b></p> <ul style="list-style-type: none"> <li>All Small Arms</li> <li>Rocket Propelled grenades</li> <li>Indirect Fires</li> <li>Tanks</li> <li>Most Explosively Formed Penetrators</li> </ul>

Future Combat System Mounted Combat System



<p><b>Aircraft</b></p> <ul style="list-style-type: none"> <li>3 per C-5</li> <li>3 per C17</li> </ul> <p><b>Weight</b></p> <p>27 Ton Design</p>	<ul style="list-style-type: none"> <li>Dismounted Enemy / Bunkers</li> <li>Defeats heavy armor with autoloader = reduced crew</li> <li>Provides Beyond Line of Sight Precision engagements</li> </ul>	<p><b>Protection</b></p> <ul style="list-style-type: none"> <li>360 Degree Active / Passive Protection</li> <li>Networked Layered Protection Strategy</li> </ul> <p><b>Threats</b></p> <ul style="list-style-type: none"> <li>All Small Arms</li> <li>Rocket Propelled grenades</li> <li>Indirect Fires</li> <li>Tanks</li> <li>Most Explosively Formed Penetrators</li> </ul>
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Stryker Mobile Gun System





<p><b>Aircraft</b></p> <ul style="list-style-type: none"> <li>4 per C-5</li> <li>3 per C-17</li> </ul> <p><b>Weight</b></p> <p>23 Ton</p>	<ul style="list-style-type: none"> <li>Dismounted Enemy / Bunkers</li> <li>Defeats light armor / bunkers w/autoloader = reduced crew</li> <li>Only provides Line of Sight engagements</li> </ul>	<p><b>Protection</b></p> <ul style="list-style-type: none"> <li>Passive Protection</li> </ul> <p><b>Threat</b></p> <ul style="list-style-type: none"> <li>All Small Arms</li> <li>Rocket Propelled grenades</li> <li>Indirect Fires</li> <li>Some Explosively Formed Penetrators</li> </ul>
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# Brigade Combat Team (BCT) Operational Comparison

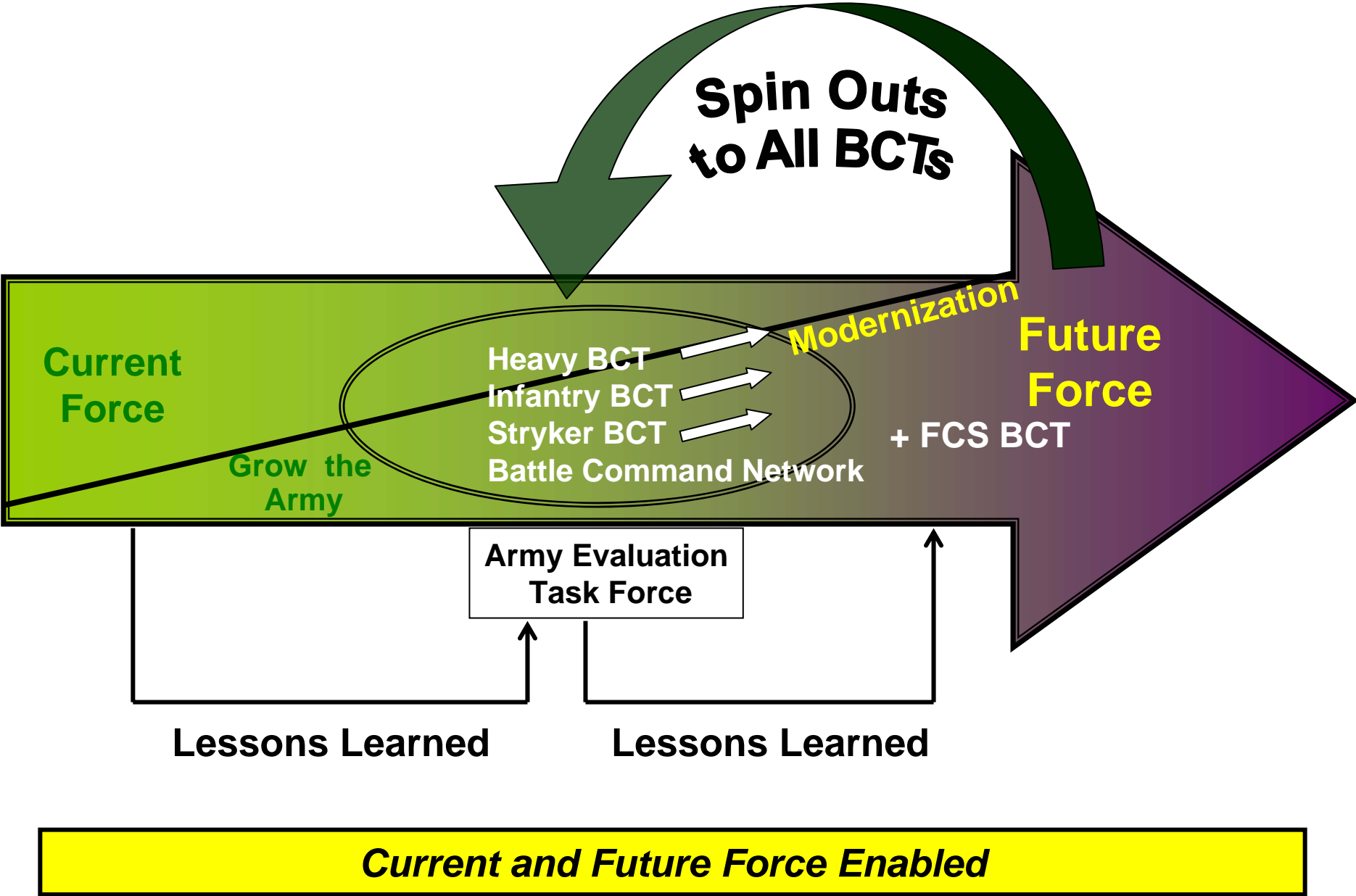
Comparison ↓ Criteria	Unit Type →	Heavy BCT with Abrams	FCS BCT with Mounted Combat System	Stryker BCT with Mobile Gun System
<b>Capability Improvements</b>				
Soldiers		3876	3219	4087 *
Self Sustaining (Hi OPTEMPO)		24 hours	72 hours	72 hours
Wartime Vehicle Availability		<90%	>95%	>90%
Infantryman in Squads		324 (8% of HBCT)	702 (22% of FCS BCT)	918 (23% of SBCT)
Support Soldiers (Based off Brigade Support Battalions)		1186 (31% of HBCT)	411 (13% of FCS BCT)	724 (18% of SBCT) includes 103 CLS civilians
Average maintenance man hours per operating hour		1:2	1:20	1:10
<b>Revolutionary Improvements</b>				
Maintenance tasks performed by crew chief		10%	80%	10% (with CLS)
Platform health status		Only vehicle crew understands	Visible thru networked logistics to entire BCT	Only vehicle crew understands
Power		Motors and generator (power consumer)	Hybrid electric (power generator)	Motors and generator (power consumer)
Training		Stand alone simulators (select locations)	Embedded training (anywhere)	Stand alone simulators (select locations)

\* Note: (Plus 103 Contractor Logistics Support (CLS))

# Current vs Future Combat Teams

	Heavy Modular BCT	FCS BCT
Capability Improvements		
Self Sustaining (Hi OPTEMPO)	24 hours	72 Hours
Wartime Vehicle Availability	<90%	>95%
Infantrymen in Squads	324 (8% of HBCT)	702 (22% of FCS BCT)
Support Soldiers	1186 (31% of HBCT)	411 (13% of FCS BCT)
Average maintenance man hours per operating hour	1 to 2	1 to 20
Revolutionary Improvements		
Maintenance tasks performed by crew chief	10%	80%
Platform Health Status	Only vehicle crew understands	Visible to entire Brigade through networked logistics
Power	Motors and generators (Power Consumer)	Hybrid Electric (Power Generator)
Training	Stand alone Simulators (in select locations)	Embedded Training (Anywhere)

# Here's Where We are Going



**Spin Outs  
to All BCTs**

**Current  
Force**

**Grow the  
Army**

Heavy BCT  
Infantry BCT  
Stryker BCT  
Battle Command Network

**Modernization**

**Future  
Force**

**+ FCS BCT**

**Army Evaluation  
Task Force**

**Lessons Learned**

**Lessons Learned**

**Current and Future Force Enabled**