

# Early Infantry Brigade Combat Team (E-IBCT) Capabilities

## INVESTMENT COMPONENT

Modernization

Recapitalization

Maintenance



## MISSION

To empower Soldiers with increased intelligence, surveillance, and reconnaissance (ISR) and lethality capabilities by incrementally modernizing the Army's Brigade Combat Teams (BCTs)

## DESCRIPTION

The Army will build a versatile mix of mobile, networked Brigades that will leverage mobility, protection, information, and precision fires to conduct effective operations across the spectrum of conflict. Starting with the fielding of Early Infantry Brigade Combat Team (E-IBCT) capabilities in 2011, Soldiers in Infantry BCTs will incrementally receive capabilities that will increase their warfighting effectiveness.

The E-IBCT package contains:

- Network Integration Kit (NIK) (for the High Mobility Multipurpose Wheeled Vehicle [HMMWV] platform)
- XM501 Non Line of Sight–Launch System (NLOS–LS)
- XM156 Class I Unmanned Aerial Vehicle (UAV)
- AN/GSR 9 & AN/GSR 10 Unattended Ground Sensors (tactical and urban)
- XM1216 Small Unattended Ground Vehicle (SUGV)
- Interceptor Body Armor (See page 148)
- Ground Soldier System (See page 116)

## SYSTEM INTERDEPENDENCIES

None

## PROGRAM STATUS

The Army is addressing the capability gaps in our current force by accelerating delivery of advanced warfighting capabilities to all 73 Army BCTs. Starting with the E-IBCT capabilities, the Army is developing platforms and equipment to meet emerging Soldier requirements, and, as

capabilities mature, they will be fielded incrementally according to the most urgent needs of the Army.

## PROJECTED ACTIVITIES

### CAPABILITIES

Fielding by capabilities is a key element of the Army's transition to a broader modernization strategy to build a versatile mix of mobile, networked, and combat effective BCTs. Accelerating proven solutions, these capabilities will provide planned and integrated upgrades to the Force every few years. These sets of capabilities include doctrine, organization, and training in conjunction with materiel to fill the highest priority shortfalls and mitigate risk for Soldiers.

Capability sets allow the Army to meet the evolving needs of the operating environment by providing units with the latest materiel and non-materiel solutions. The best capabilities available go to the Soldiers who need them most, based on the continually evolving combat environment. By fielding capabilities in alignment with the way BCTs are structured and

## ACQUISITION PHASE

Technology Development

Engineering & Manufacturing Development

Production & Deployment

Operations & Support

trained, the Army is ensuring that Soldiers have the right capabilities to fight effectively as a system in the environments they are facing. The incremental deliveries will build upon one another as the Army continually adapts and modernizes.

#### **EARLY INFANTRY BRIGADE COMBAT TEAM CAPABILITIES**

E-IBCT fielding will provide enhanced warfighter capabilities to the force. The Army's priority is to provide Soldiers with enhanced situational awareness, force protection, and lethality through the use of unattended and attended sensors and munitions. In addition, the Soldier is provided improved communications and data sharing through the NIK. The E-IBCT package will consist of the following systems: the Non Line of Sight–Launch System (NLOS-LS), Urban and Tactical Unattended Ground Sensors (U/T UGS), Class 1 (Block 0) Unmanned Aerial Vehicle (UAV), and Small Unmanned Ground Vehicle (SUGV) Block 1. The E-IBCT will be fully integrated and networked through fielding of the ground tactical network and the NIK.

#### **THE NETWORK**

The Army will continue development and fielding of an incremental ground tactical network capability, fielded to all Army BCTs. This network is a layered system of interconnected computers and software, radios, and sensors within the BCT.



The network is essential to enable Unified Battle Command and will be delivered to the BCTs in increments of increasing capability. The first increment is currently completing System Development and Demonstration testing and will be delivered to Infantry BCTs in the form of NIK (B-kits).

#### **THE NETWORK INTEGRATION KIT (NIK)**

The NIK is an integrated suite of equipment on a HMMWV that provides network connectivity and battle command software to integrate and fuse sensor data into the commander's common operational picture (COP). The NIK consists of an integrated computer system (ICS) that hosts Battle Command software and the Systems of Systems Common Operating Environment (SOSCOE) software, along with a Joint Tactical Radio System (JTRS) Ground Mobile Radio (GMR) radio to provide the interface to selected sensors and unmanned systems, as well as voice and data communications with other vehicles and tactical operations centers.



### **XM501 NON LINE OF SIGHT–LAUNCH SYSTEM (NLOS–LS)**

The XM501 NLOS–LS consists of a platform-independent Container Launch Unit (CLU) with self-contained technical fire control electronics and software for remote and unmanned operations. Each CLU consists of a computer and communications system and 15 Precision Attack Missiles (PAM). The NLOS–LS provides a rapidly deployable and network-linked precision-guided munitions launch capability that is currently not available within the Army.



### **XM156 CLASS I UNMANNED AERIAL VEHICLE (UAV)**

The XM156 Class I UAV is a platoon-level asset that provides the dismounted Soldier with Reconnaissance, Surveillance, and Target Acquisition (RSTA) and laser

designation capabilities. The air vehicle operates in open, rolling, complex, and urban terrains with a vertical take-off and landing capability. It is interoperable with select ground and air platforms and controlled by mounted or dismounted Soldiers.



The Class I uses autonomous flight and navigation, but it will interact with the network and Soldier to dynamically update routes and target information. It provides dedicated reconnaissance support and early warning to the lowest echelons of the BCT in environments not suited to larger assets.

### **AN/GSR-9 & AN/GSR-10 UNATTENDED GROUND SENSORS (UGS)**

The UGS program is divided into two major subgroups of sensing systems: AN/GSR-9 (V) 1 Tactical-UGS (T-UGS), which includes Intelligence, Surveillance and Reconnaissance (ISR)-UGS and Radiological and

Nuclear UGS; and AN/GSR-10 (V) 1 Urban-UGS (U-UGS), also known as Urban Military Operations on Urban Terrain (MOUT) Advanced Sensor System (UMASS). The UGS are used to perform mission tasks such as perimeter defense, surveillance, target acquisition, and situational awareness, including radiological, nuclear, and early warning. Soldiers involved in the recent testing of the UGS provided invaluable feedback, which was incorporated into new versions (form factors) that are now in testing.



### **XM1216 SMALL UNMANNED GROUND VEHICLE (SUGV)**

The XM1216 SUGV is a lightweight, Soldier-portable UGV capable of conducting military operations in urban terrain, tunnels, sewers, and caves. The SUGV aids in the

performance of urban ISR missions, chemical/Toxic Industrial Chemicals (TIC), and Toxic Industrial Materials (TIM) reconnaissance and inspecting suspected booby traps and improvised explosive devices without exposing Soldiers to these hazards. The SUGV's modular design allows multiple payloads to be integrated in a plug-and-play fashion that will minimize the Soldier's exposure to hazards. Payloads to be fielded are the manipulator arm, tether capability, chemical/radiation detection, and a laser target designator. Weighing 32 pounds, the SUGV is capable of carrying up to four pounds of payload weight.





## Early Infantry Brigade Combat Team (E-IBCT) Capabilities

### FOREIGN MILITARY SALES

None

### CONTRACTORS

Boeing Corp.  
Science Applications International Corp.  
(SAIC)

#### Network Integration Kit:

Boeing Corp. (Huntington Beach, CA)  
General Dynamics C4 Systems, Inc.  
(Bloomington, MN)

Overwatch Systems (Austin, TX)

#### XM501 Non Line of Sight-Launch System:

Raytheon Company (Plano, TX)  
Lockheed Martin Missiles & Fire Control  
(Grand Prairie, TX)

#### XM156 Class I Unmanned Aerial Vehicle:

Honeywell (Albuquerque, NM)

#### AN/GSR 9 & AN/GSR 10 Unattended Ground Sensors:

Textron Defense Systems (Wilmington, MA)

#### XM1216 Small Unmanned Ground Vehicle:

iRobot (Burlington, MA)

