

# Emergency Responder Technology

- **Responder Tracking System**
  - Real-time positioning and status of first responders to incident commanders
- **Physiological Monitoring System**
  - Improve incident commanders situational awareness through real-time health status of first responders



**Future Deployment:** *Provide technology for the SEL & AEL for jurisdictions to purchase*  
**Cross-functional Values:** Technologies for USCG, CBP, and other LE and EMS groups

## Emergency Responder Technology

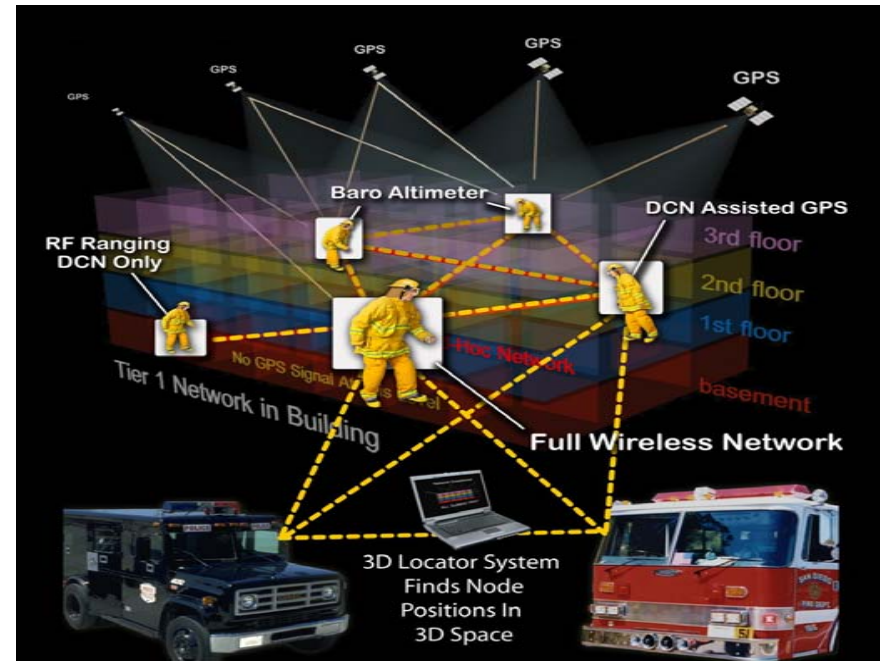
# Responder Tracking System

### Summary:

- No viable single solution exist
- Best approach is the **“Cocktail Solution”**
- Current technologies
  - GPS, Radio Frequency Ranging (UWB), Inertial Navigation System (INS), Barometric Altimeter, Wireless Mesh Network and visual display for the incident commander
- Responder wears the unit that transmits location info via a wireless network to the command post

### Plan and Schedule:

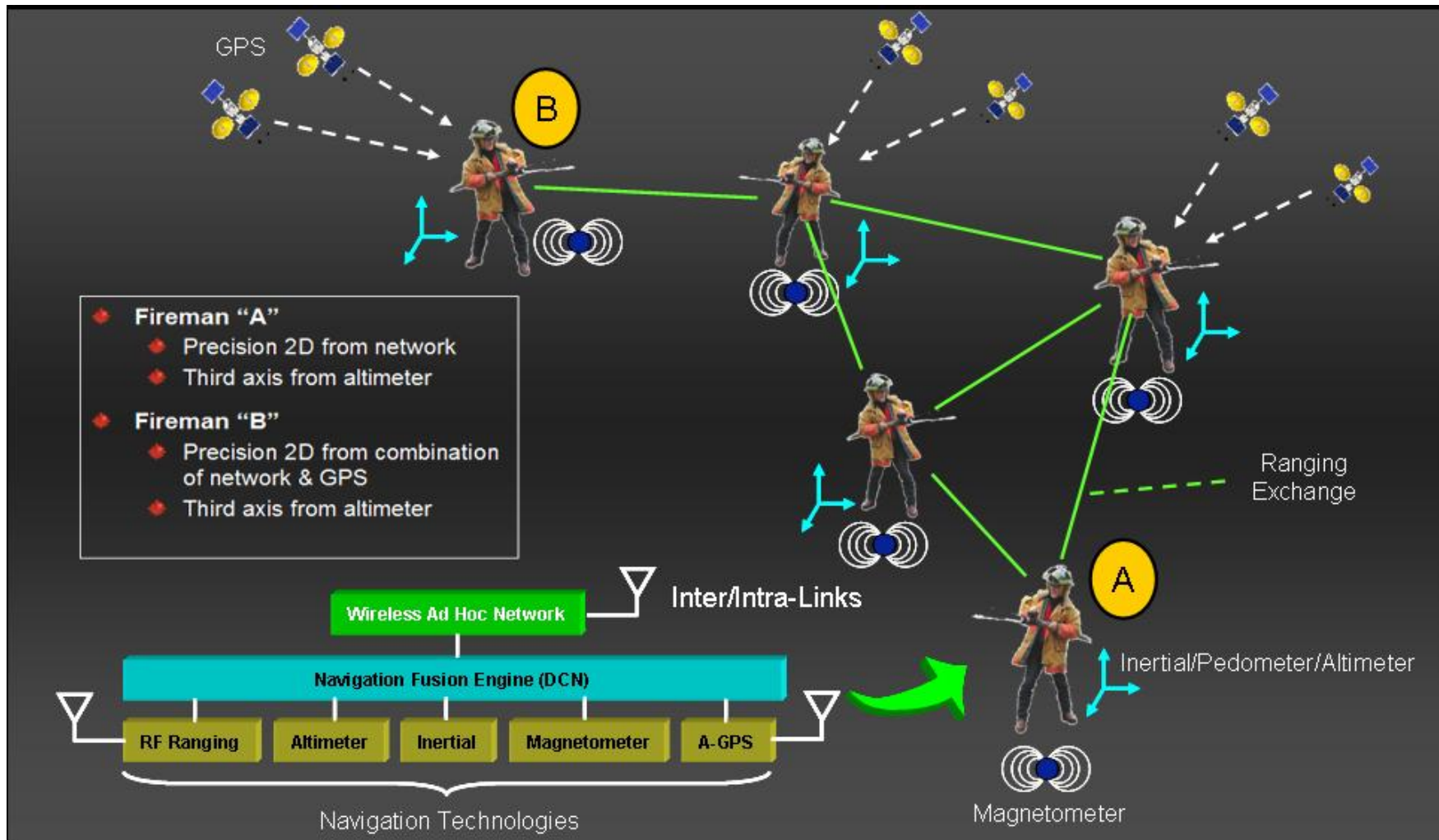
- Develop Prototype 3D Locator Hardware – FY07
  - Critical Design – FY07
  - Small scale testing – FY07
- Prototype visual imaging and tracking – FY08
- Pilot first responder 3D Locator System in major urban areas across the U.S. – FY08/FY09
- Improve accuracy to under 3m – FY09
- Enhance range and signal penetration in urban environment – FY09/FY10



**Homeland  
Security**

# Responder Tracking System – Staying Connected

Fusing All Navigation Information Available to the Network



# Responder Physiological Monitoring System

***“There is a need for a highly reliable metric and notification system for on scene identification of firefighters who are at significant risk of an immediate cardio-vascular or cerebral-vascular incident”***

## **Summary**

- Develop an integrated sensor package that will monitor a responder’s vital signs
- Develop a baseline for the overall physical health of the responder
- Identify and develop alarms notification metrics

## **Planned Demos/Deliverables/Transitions:**

- Program execution plan – FY09
- System requirements and notification metrics – FY09
- Concept development and exploration – FY09
- Brassboard model –FY10; Prototype model – FY10
- Develop engineering model – FY11
- Integration, test, and system demonstration – FY11
- Field test and evaluation – FY12
- Transition system to Authorized Equipment List – FY13

