



**Black i Robotics**

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June 1, 2009

LandShark  
UGV

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# About Black-I Robotics

- Black-I makes Unmanned Ground Vehicles (UGV) since 2005
- Affordable Robust Mid-Sized UGVs (ARMS UGV)
- Committed to an open source, open platform strategy
- “Jeep Chassis”



# LandShark



# LandShark Series E



# What We're Doing

- TSWG Contract FY08
  - Commercial Chassis Production Now
  - Full System with Arms & Payloads 2QCal09
- Logan Intl. Airport – VBIED Destroyer, Civilian Mkt. T&E Prototype
- Sandia National Labs - x-ray aiming
- NAVSEA Dahlgren Wolf Pack – 2 lethal, 2 non-lethal, radio relay, remote acoustic hailing device



# Applications



Version "D" -- LandShark



# Open Source Modularity Improves Price & Performance

- Open Source JAUS Software allows interchangeable parts
- PC/Tablet Based OCUs allows affordability and upgradability
- Mission Modularity Increases Apps.
- **Several Missions for the Price of One**



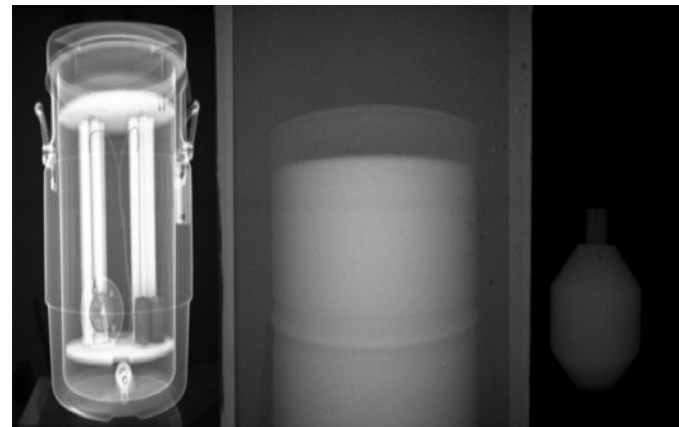
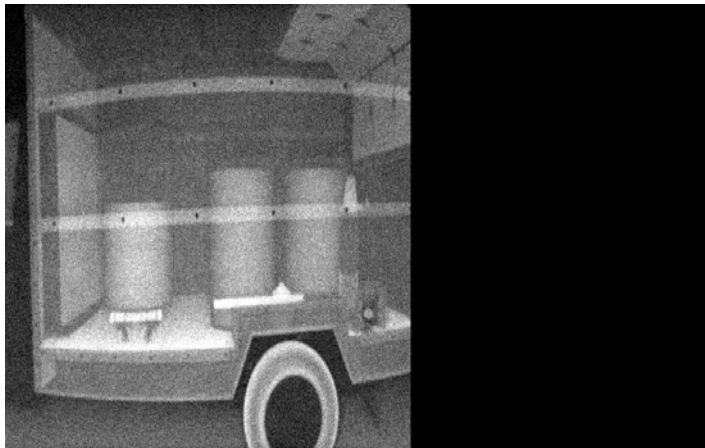
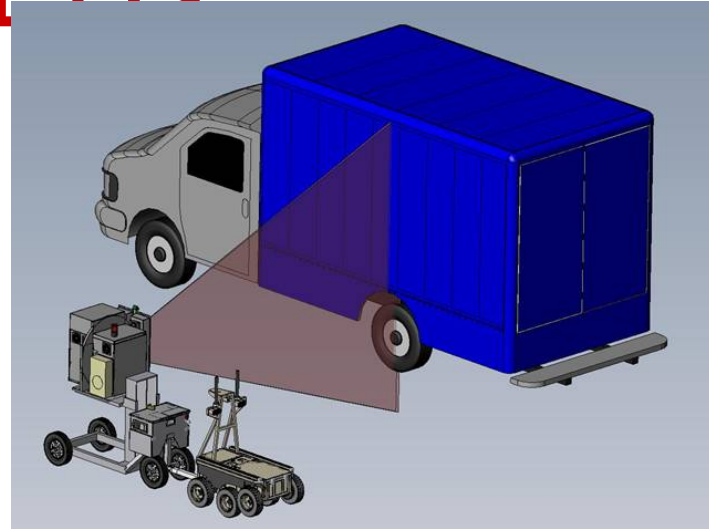
# What We're Doing

- Received “Popular Science 2008 Best of What’s New Award for Security”
- Robotic Trailer for Z-Backscatter X-Ray system for AS&E
- Sarnoff Team for Complex Terrain Mapping with Vision Systems





# LandShark Towing AS&E Z-Back Scatter X-Ray Trailer Against VBIEDs



# LandShark with MREL Aqua Ram Disruptors



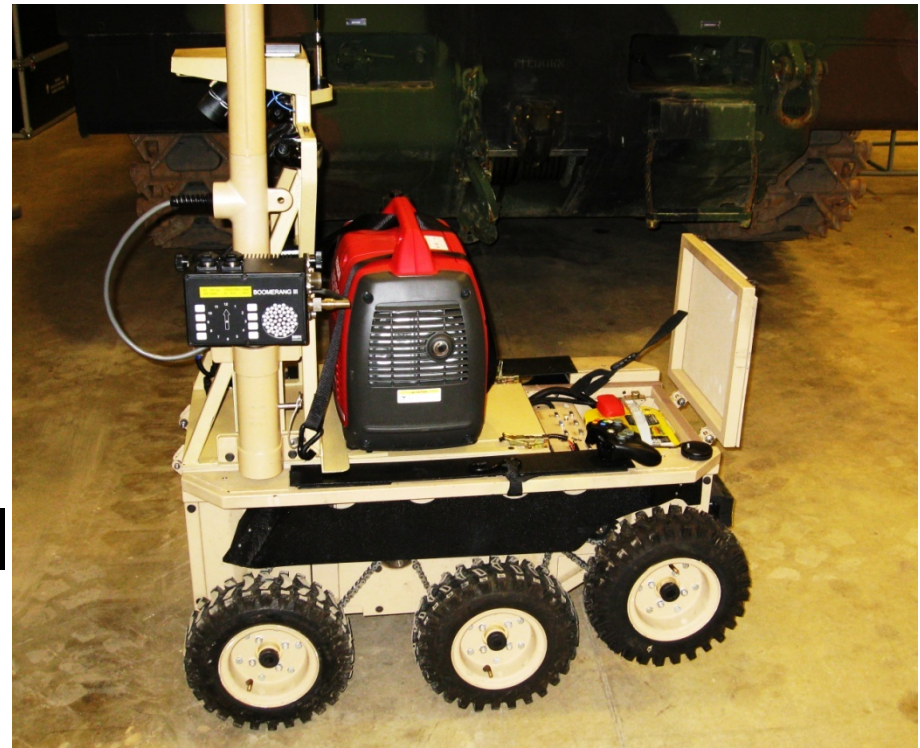
# Remote Hailing Device

- Landshark D with a Moog Remote Acoustic Hailing Device attached.
- Navy recon and nonlethal hailing system.
- Drive a fence line, remotely communicate into a village.
- Slider rails allow quick mounting and dismounting of large payloads.



# Hybrid Configurable on Fly Electric or Gas/Electric

- All Electric or Hybrid Using Smart Charger
- 8 to 15 Hour Now or in Future
- 8-10 KW Multi-Fuel Gen. with Alternator & Electric Start

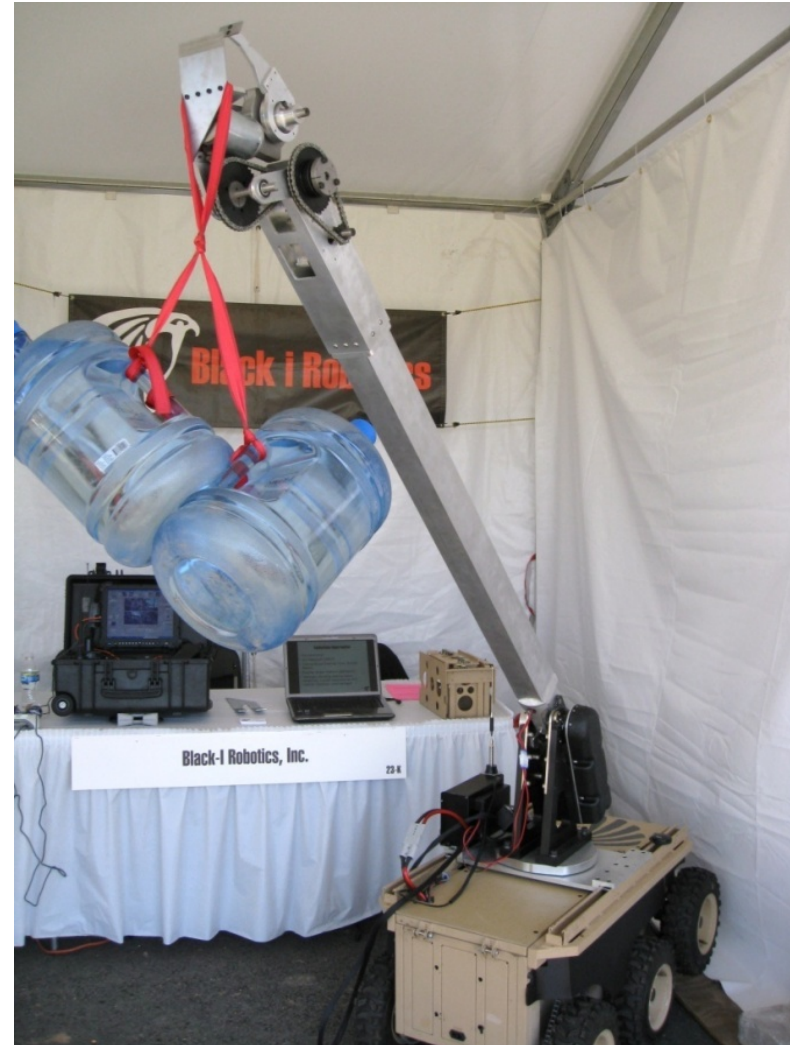


# Counter Sniper Experiments Boomerang Acoustic Detector & Laser Veiling



# Heavy Modular Arm

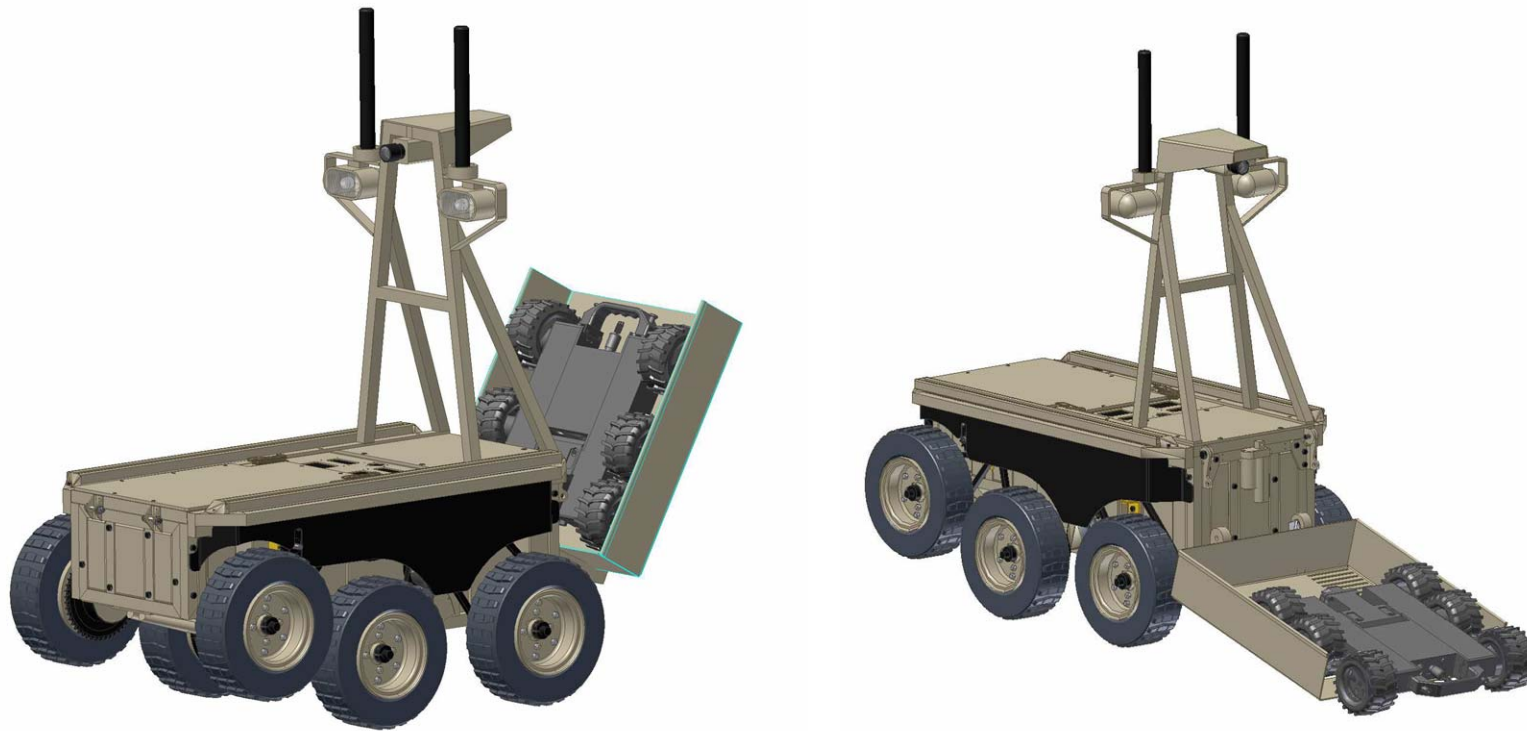
- 100lb lift 6 feet
- 7800 ft.lbs at shoulder strength
- Half price of closest competitor
- Total modularity
- Factory Robotic Quality Controls Coming Next



# Trailers, Towing, Tillers & Plows



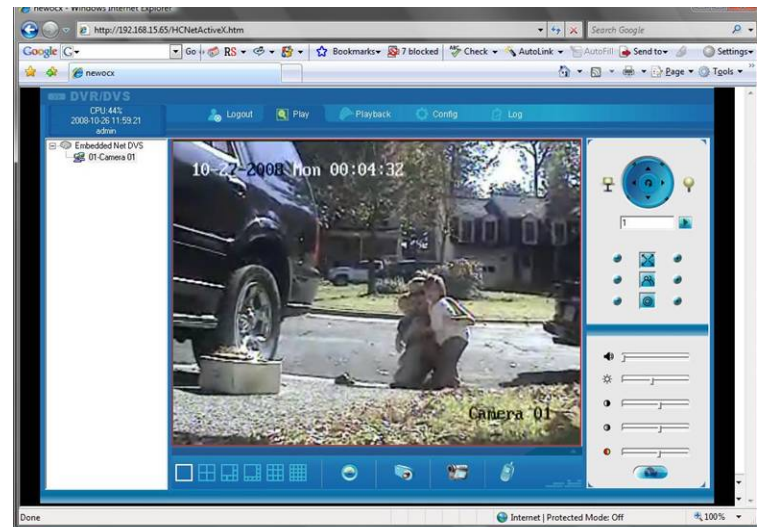
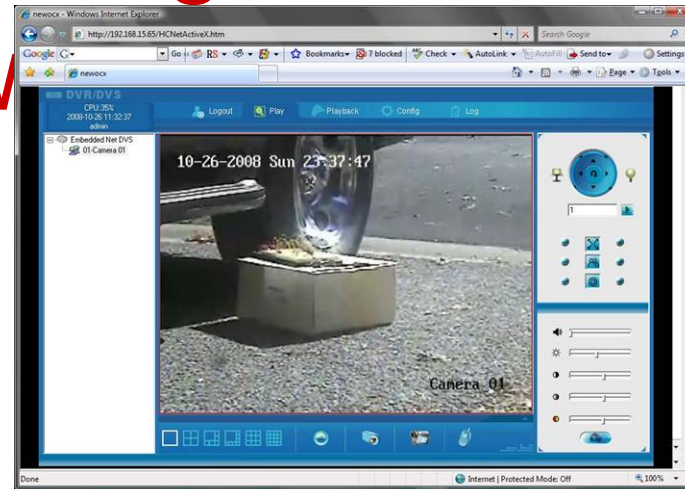
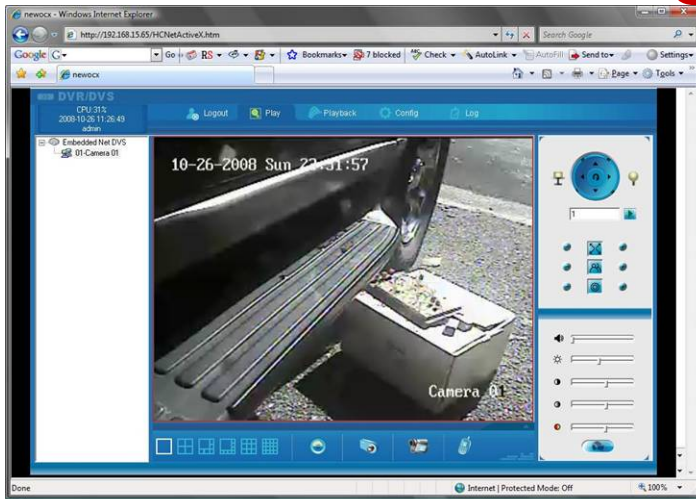
# Marsupial Deployment of Cubic's Cougar with LandShark E





# IP Protocol Cameras Allow Controlled Webcasting of Images to Many

or



# Black-I Specific

- Product shifting to check points and perimeters and away from military EOD applications
- Targeting DHS and DOE and looking for a play in the private sector
- Targeting Open Sources and Partnering Wherever Possible



# Difficult Environment

- Rare Opportunity to Grow by Multiples Yet
- Lobbying & Lonely
- Political Riptides (PA, MI)
- Third World Bus. Practices Within DOD
- Problematic Capital Markets

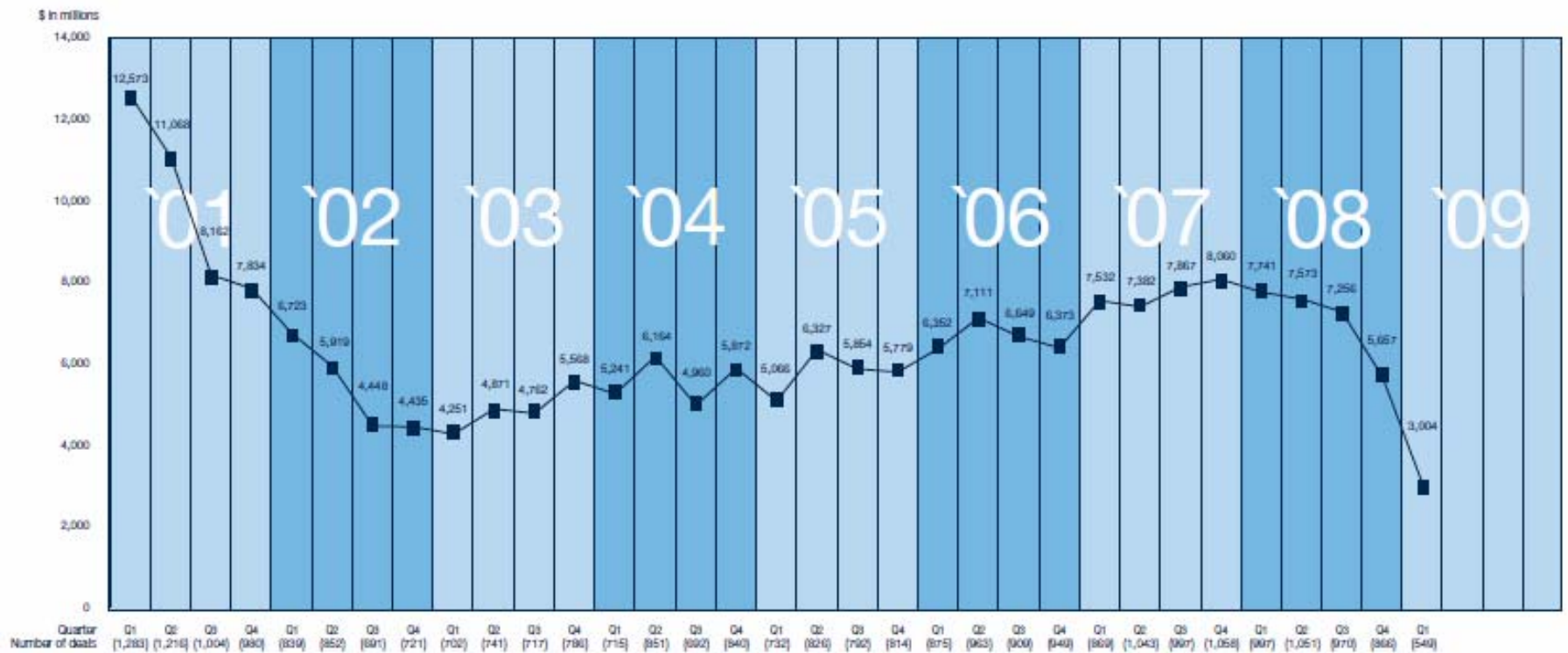


# How Does a Small Company Raise New Capital?

- Traditional Banking
- IPO?
- Traditional Private Equity
- Merger & Acquisition
- Strategic Partnering



# VC Investments



# Funds for acquisitions by larger firms

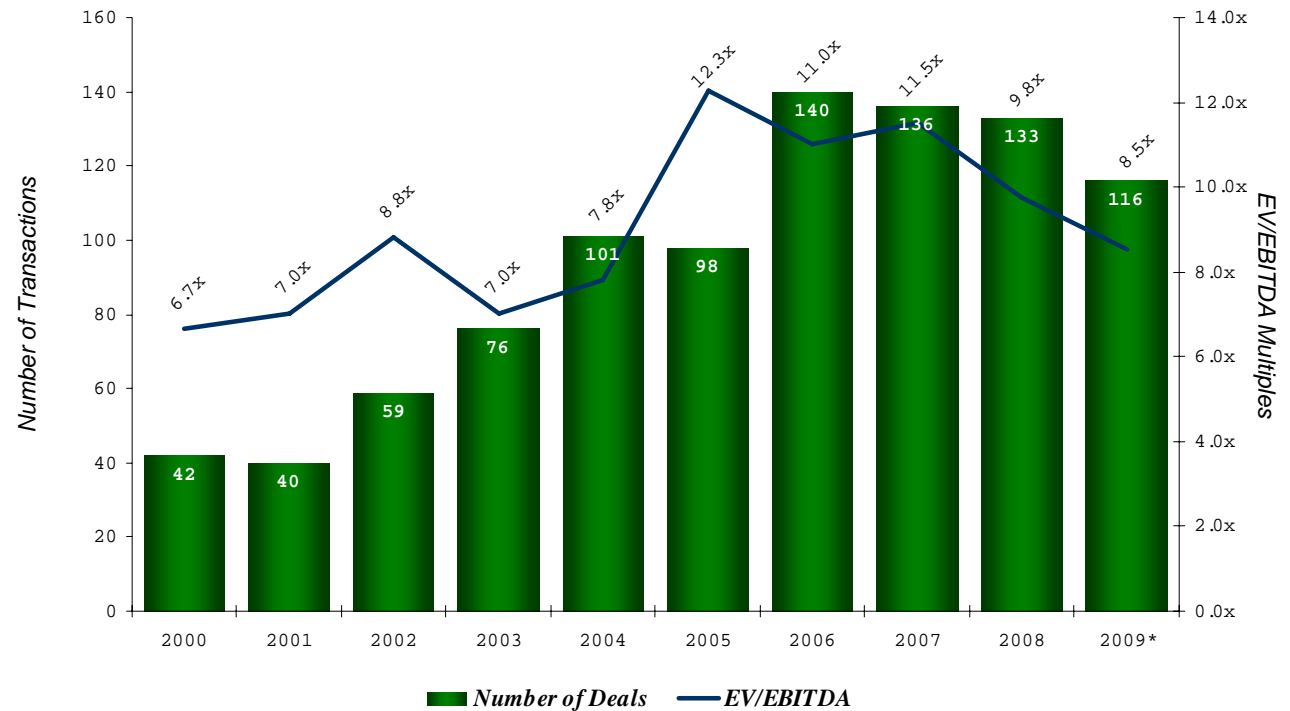
- Acquisition funds are high
- Valuations are moderate and financial leverage in a purchase is low
- Is there a public play for a small company that does a roll up of related and like-minded



# Defense Transactions & Valuations

- Over the past 10 years, average M&A Valuations have ranged from 7x to 12x LTM EBITDA
- Defense valuations peaked from 2005 to 2007
- Historical valuation median since 2000 at 8.7x with median activity level is approximately 100 deals per year

**LTM period valuations currently at historical median level**



Source: Houlihan Lokey's proprietary M&A database; Multiples reflect enterprise value to latest twelve months EBITDA prior to deal announcement  
 \*Represents LTM as of 4/15/09



# Strategies That Are Working for Black-I

- Cost
  - Outsource.
  - Keeping fixed costs low.
  - Max. Variable Cost/Rev
  - Publicity over Advertising
- Price
  - Making products affordable by design





# Strategies That Are Working for Black-I

- Speed
  - Move faster with today's information not last year's – Don't Wait for the Needs Statement
  - Partner for speed
- Focused Innovation
  - Licensing government technology
  - CRADAs and leveraging government work (NAVSEA)
  - IP Strategies – Use COTS, Trade Secrets and limited patents
  - Work the Hill
  - Riding the up escalator – target technology trends use only latest tech.
  - Markets less than 2 years out



# Importance of Small Defense Businesses in War

- Military Warfare
  - Faster, Better Cheaper are all Small Business Strengths
  - Saving DOD from itself.
- Economic Warfare
  - Avoiding Dead-End Defense Programs
  - Making/Losing Jobs

